



Wecon VD2 SA Series Servo Drives Manual

(Lite V1.1)

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Preface

This manual is applicable to Wecon VD2 Series absolute value servo drives (VD2 SA series). In order to use this series of servo drives correctly, please read this manual carefully in advance and save it for later use.

During use, if you have any doubts about the function and performance of this equipment, please contact our technicians for relevant assistance to use this equipment smoothly.

The company's products are constantly being improved and upgraded, and the contents of this manual are subject to change without notice.

This manual is suitable for introductory and use reference books for elementary and intermediate readers. At the same time, all interpretation rights of this manual belong to our company.



The danger caused by failure to operate as required may result in serious injuries or even death.

! WARNIN

The danger caused by failure to operate as required may result in moderate or minor injuries, and equipment damage.



User manual change record

The following table lists the servo driver models and supported firmware.

	Supported models	Corresponding model	Supported firmware
	VD2-010SA1G	VD2A	
	VD2-014SA1G	VDZA	V1.10
	VD2-016SA1G		V1.12
Wecon VD2SA series servo drives manual	VD2-019SA1G	VD2B	V1.13
	VD2-021SA1G		
	VD2-025SA1G	VD2B	V1.12
	VD2-030SA1G	VDZB	V1.13
	VD2F-003SA1P		V1.00
	VD2F-010SA1P	VD2F	V1.01
	VD2F-014SA1P		V1.02



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1. Safety reminder

1.1 Safety precautions

This section describes the important items that users must observe, such as product confirmation, storage, transportation, installation, wiring, operation, inspection, and dispoal. Please follow the steps required by this manual for trial operation.

/ WARNIN

- After the power is turned off for more than 5 minutes and the power indicator is off, use a multimeter to confirm that the voltage across the high-voltage capacitor has dropped to a safe voltage, and then proceed with the disassembly and assembly of the drive, otherwise the residual voltage may cause electric shock.
- Please never touch the inside of the servo drive, otherwise it may cause electric shock.
- Please insulate the connection part of the power terminal, otherwise it may cause electric shock.
- The grounding terminal of the servo drive must be grounded, otherwise it may cause electric shock.
- Please install the servo drive, servo motor, and external braking resistor on non-combustible materials, otherwise it may cause a fire.
- Be sure to connect an electromagnetic contactor and a non-fuse circuit breaker between the power supply and the main circuit power supply of the servo drive. Otherwise, when the equipment fails, it may cause fire because it cannot cut off the large current.
- In the servo drive and servo motor, please do not mix with oil, grease and other flammable foreign objects and screws, metal pieces and other conductive foreign objects, otherwise it may cause a fire.
- When the servo motor is connected to the machine, if an operation error occurs, it will not only cause damage to the machine, but also sometimes cause personal safety accidents.
- Do not damage or pull the cable forcefully, do not subject the cable to excessive force, or place heavy objects underneath, otherwise electric shock may occur, causing the product to stop operating or burn out.
- Do not use the brake of the brake motor for normal braking, otherwise it may cause a malfunction.
- Except for the designated operator, please do not set up, disassemble and repair the equipment, otherwise it may cause electric shock or injury.
- Do not remove the cover, cables, connectors and optional accessories while the power is on, otherwise it may cause electric shock.
- Please install a stop device on the machine side to ensure safety.
- Please take measures to ensure that your personal safety will not be endangered when restarting, otherwise it may cause injury.
- Do not modify this product, otherwise it may cause personal injury or mechanical damage.



1.2 Precautions for storage and transportation

! CAUTION

Please keep and install in the following environment:

- Places without direct sunlight;
- Places where the ambient temperature does not exceed product specifications;
- Places where the relative humidity does not exceed product specifications;
- Places where condensation will not occur due to rapid changes in temperature;
- Places free of corrosive gas and flammable gas;
- Places without combustible materials nearby;
- Places with less dust, salt and metal powder;
- Places where there is no splash of water, oil, medicine, etc.;
- Places where vibration or shock will not affect the product (places that exceed product specifications);
- Places that will not be exposed to radiation;

Storage or installation in environments other than the above may cause product failure or damage:

- Please use the correct method for handling according to the weight of the product;
- Do not hold the motor cable or motor shaft for transportation;
- When operating the servo unit and servo motor, please pay attention to sharp parts such as the corners of the device.

1.3 Precautions during installation

CAUTION

- Do not install this product in a place where water will be splashed or in an environment prone to corrosion;
- Please be sure to comply with the devices of the installation direction, otherwise it may cause device failure;
- When installing, please make sure to keep the specified distance between the servo drive and the inner surface of the electric cabinet and other machines, otherwise it may cause fire or device failure;
- Do not apply excessive impact, otherwise it may cause equipment failure;
- Do not sit on the product or place heavy objects on it, otherwise it may cause personal injury;
- Do not use this product near flammable gases and combustibles, otherwise there may be a risk of electric shock or fire;
- Do not block the suction and exhaust ports, and do not allow foreign objects to enter the product, otherwise it may cause device failure or fire due to the aging of internal components.



1.4 Precautions during wiring

! CAUTION

- Do not connect the three-phase power supply to the output terminals U, V, W of the servo drive, otherwise it may damage the device or cause a fire;
- ♠ Please connect the output U, V, W of the servo drive and the U, V, W of the servo motor directly. Do not use the electromagnetic contactor during the connection, otherwise it may cause abnormal operation or malfunction of the device;
- When the DO output terminals are connected to the relay, please pay attention to the polarity of the freewheeling diode, otherwise the drive may be damaged and the signal can not be output normally;
- Please fix the power terminal and the motor terminal firmly, otherwise it may cause a fire hazard;
- Do not connect the 220V servo unit directly to the 380V power supply;
- Do not pass the power line and signal line through the same pipe or bundle them together. When wiring, the power line and signal line should be separated by more than 30cm;
- Use twisted-pair shielded cables for signal cables and encoder cables, and the shielding layer should be grounded at both ends;
- The wiring length of the signal input line is recommended to be within 3M, and the wiring length of the encoder is recommended to be within 15M;
- When using in the following places, please take adequate shielding measures.
 - When interference occurs due to static electricity.
 - Places where strong electric or magnetic fields are generated;
 - Places where there may be radiation;
- When checking the status, please make sure that the CHARGE indicator is off.

1.5 Precautions during operation

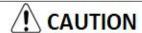
! CAUTION

- During trial operation, in order to prevent accidents, please run the servo motor without load (not connected to the drive shaft), otherwise it may cause injury.
- When the servo motor is running, do not touch its rotating part, otherwise it may cause injury.
- Be sure to set the correct moment of inertia ratio, otherwise it may cause vibration.
- When it is installed on the supporting machine and starts to run, please set the user parameters in accordance with the machine in advance. If you start running without setting parameters, it may cause the machine to lose control or malfunction.
- When installing on the supporting machinery and starting to run, please put the servo motor in a state where it can be stopped in an emergency at any time, otherwise you may get injured.
- When using a servo motor on a vertical axis, please install a safety device to prevent the workpiece from falling under alarm, overtravel, etc. states. In addition, please set the servo lock stop setting when the overtravel occurs, otherwise the workpiece may fall in the overtravel state.
- Since extreme user parameter adjustments and setting changes will cause the servo system to become unstable, please never make settings, otherwise it may cause injury.



- When an alarm occurs, reset the alarm after removing the cause and ensuring safety, and restart the operation, otherwise it may cause injury.
- Except for special purposes, do not change the maximum speed value (P1-10). If you change it carelessly, it may damage the machine or cause injury.
- When the power is turned on and within a period of time after the power is cut off, the heat sink of the servo drive, the external braking resistor, the servo motor, etc. may experience high temperature. Please do not touch it, otherwise it may cause burns.
- Solution Solution States an instantaneous power failure occurs during operation, the machine may restart suddenly, so please do not approach the machine, and press the stop button when the power is off, and operate after the power supply is stable.

1.6 Precautions during maintenance and inspection



- The power on and off operation should be carried out by professional operators.
- When testing the insulation resistance of the drive, please cut off all the connections with the drive first, otherwise it may cause the drive to malfunction.
- Do not use gasoline, alcohol, acid and alkaline detergents to avoid discoloration or damage to the casing.
- When replacing the servo drive, please transfer the user parameters of the servo drive to the new servo drive before restarting operation, otherwise the machine may be damaged.
- Do not change the wiring when the power is on, otherwise it may cause electric shock or injury.
- Do not disassemble the servo motor, otherwise it may cause electric shock or injury.



2. Product Information

2.1 Servo drives

2.1.1 Servo drive model naming

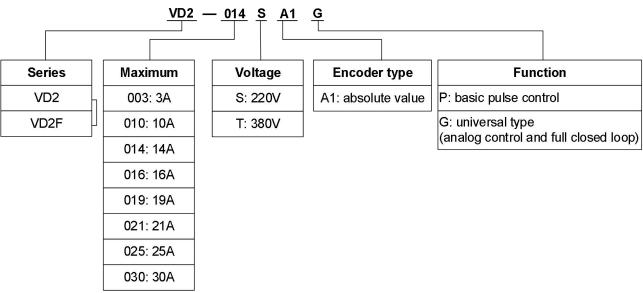


Figure 2-1 Servo drive model

Figure 2-2 (VD2A) and Figure 2-3 (VD2B) show the exterior and nameplate of the VD2 series absolute value servo drive.

Figure 2-4 shows the exterior and nameplate of the VD2F series absolute value servo drive.

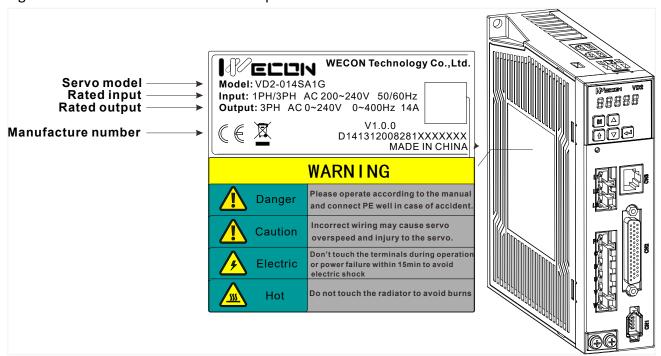


Figure 2-2 Exterior and nameplate of VD2A servo drive



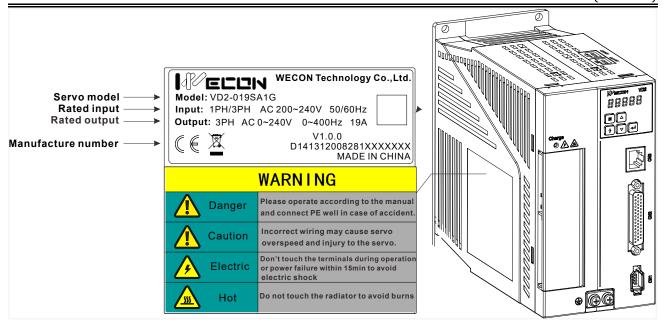


Figure 2-3 Exterior and nameplate of VD2B servo drive

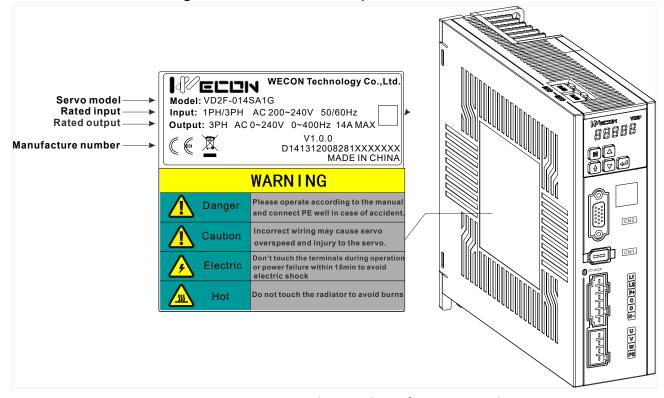


Figure 2-4 Exterior and nameplate of VD2F servo drive



2.1.2 The composition of servo drive

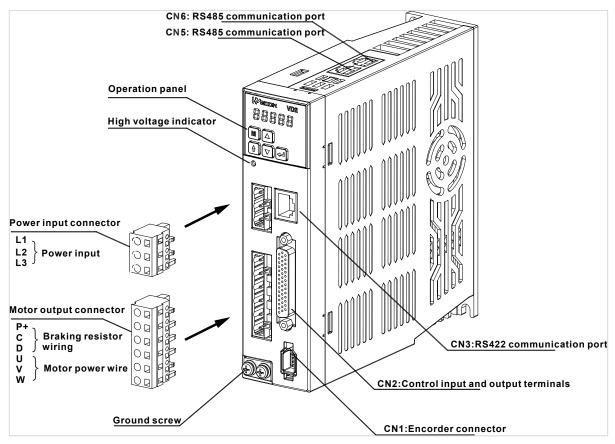


Figure 2-5 Composition of VD2A servo drive

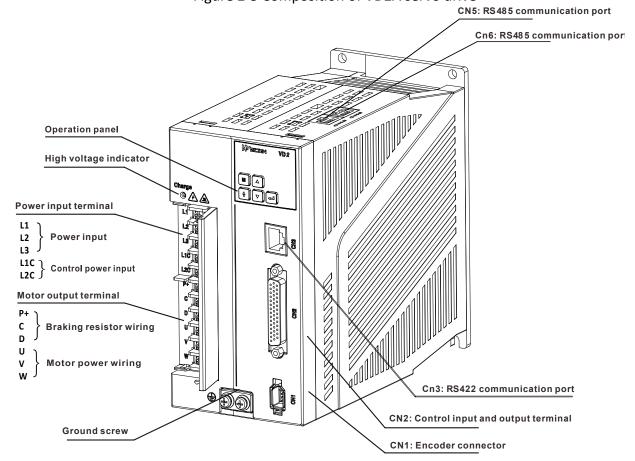


Figure 2-6 Composition of VD2B servo drive



PΕ

The 220V power supply specifications and 380V power supply specifications of the VD2B drive have the same appearance and composition.

CN4: Host computer RS422 communication port or RS485 communication port CN3: Host computer RS422 communication port or RS485 communication port Operation panel 88888 CN2: Control input and output connector CN1: Encoder connector High voltage indicator Main power connector L2 P+ С D Motor output connector Ground screw U V W

Figure 2-7 Composition of VD2F servo drive

Note: When using external braking resistor or internal braking resistor, special short-circuit processing is required, as shown in the figure below:

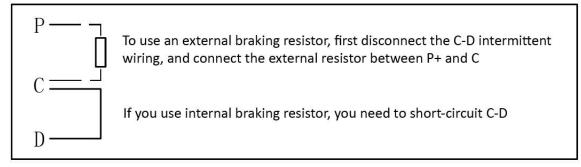


Figure 2-8 Short connection of braking resistor



2.1.3 Specification of servo drive

Electrical specifications

Item		VD2A	V	D2B
Model	VD2-010SA1G	VD2-014SA1G	VD2-016SA1G	VD2-019SA1G
Maximum output current	10A	14A	16A	19A
Control power supply		-		AC 198 to 242V /60Hz
Power supply	Single-phase AC 198 to 242V, 50/60Hz		50/	συπΖ
Braking resistor	External Built-in and external		Built-in a	nd external

Table 2-1 Electrical specification of single-phase 220V servo drive

Item	VD2F				
Model	VD2F-003SA1P	VD2F-010SA1P	VD2F-014SA1P		
Maximum output current	3A	10A	14A		
Control power supply	-				
Power supply	Single-phase AC 198 to 242V, 50/60Hz				
Braking resistor	External Built-in and external				

Table 2-2 Electrical specification of single-phase 220V servo drive

ltem	VD2B				
Model	VD2-021SA1G	VD2-025SA1G	VD2-030SA1G		
Maximum output current	21A	25A	30A		
Control power supply	Single	e-phase AC 198 to 242\	/, 50/60Hz		
Power supply	Three-phase AC 198 to 242V, 50/60Hz				
Braking resistor		Built-in and externa	al		

Table 2-3 Electrical specification of three-phase 220V servo drive



2.2 Servo motors

2.2.1 Servo motor model naming

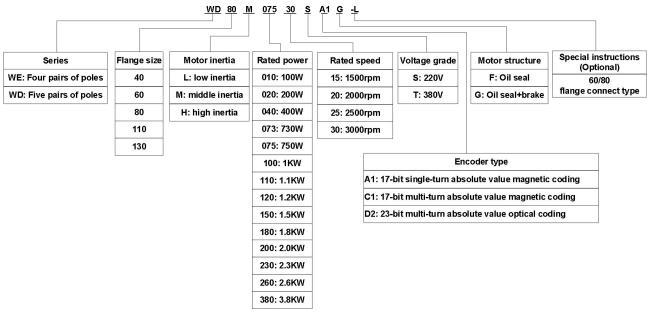


Figure 2-9 Servo motor naming

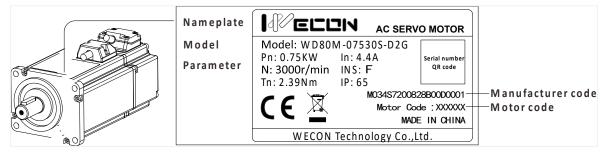


Figure 2-10 Servo motor nameplate

2.2.2 Composition of Servo motor

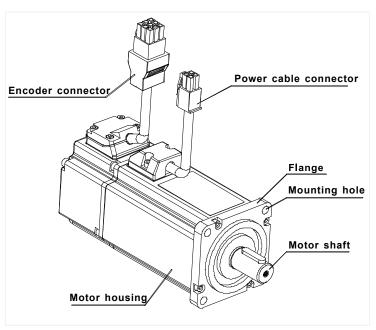


Figure 2-11 Motor composition of 40, 60 and 80 flange



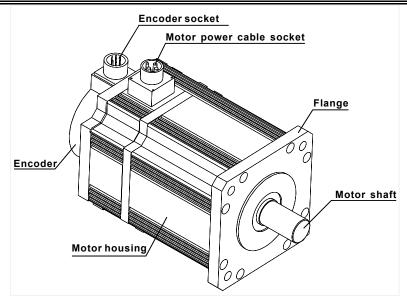


Figure 2-12 Motor composition of 110 and 130 flange

2.2.3 Specification of servo motor

Wecon motor model	Motor code	Flange size	Rated power (KW)	Rated torque (N.m)	Voltage (V)	Rated speed (rpm)	Encoder type	Brake
WE130M-10025S-A1F	A091	130	1.0	4.0	220	2500	17-bit single turn absolute magnetic	No
WE130M-15025S-A1G	A111	130	1.5	6.0	220	2500	17-bit single turn absolute magnetic	Yes
WE130M-26025S-C1F	C191	130	2.6	10	220	2500	17-bit multi turn absolute magnetic	No
WE80M-12030S-C1G	C231	80	1.2	4.0	220	3000	17-bit multi turn absolute magnetic	Yes
WE110M-18030S-D2G	D131	110	1.8	6.0	220	3000	23-bit multi turn absolute optical	Yes
WE130M-23015S-D2F	D161	130	2.3	15.0	220	1500	23-bit multi turn absolute optical	No

Table 2-1 Wecon Motor Specifications

Note: Only part of motor models are displayed, please refer to the "Model Selection Manual" for details.



3. Installation of servo drive and motor

3.1 Installation of servo drive

3.1.1 Dimensions (Unit: mm)

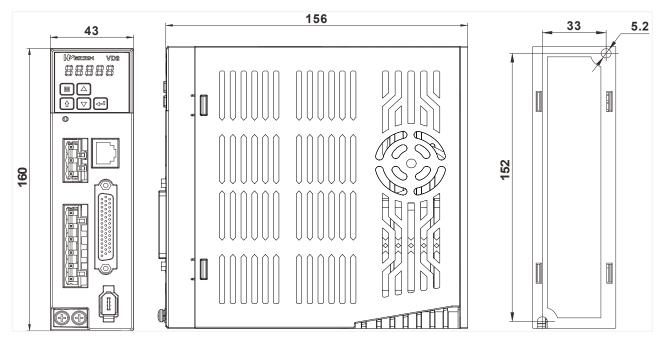


Figure 3-1 Installation dimensions of VD2A servo drive

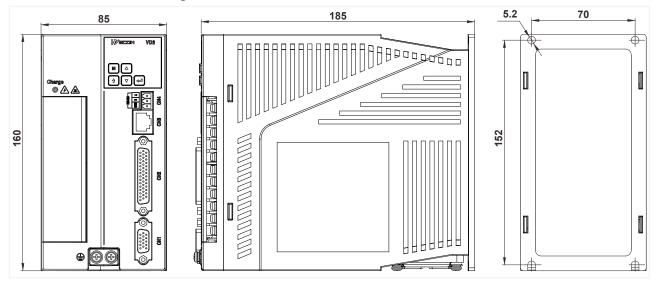


Figure 3-2 Installation dimensions of VD2B servo drive



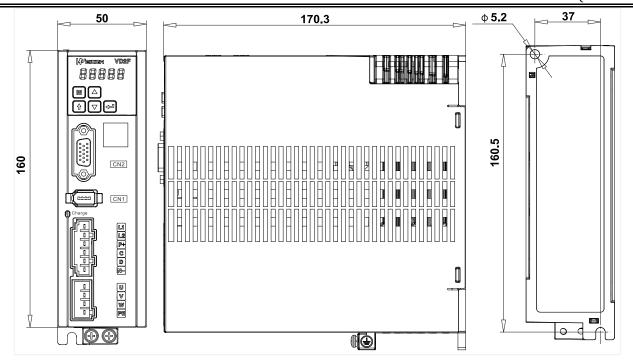


Figure 3-3 Installation dimensions of VD2F servo drive

3.1.2 Installation site

- 1 Please install it in an installation cabinet free from sunlight and rain;
- 2 In a place without vibration;
- (3) Please do not install in the environment of high temperature, humidity, dust and metal dust;
- 4 Do not use this product near corrosive and flammable gases such as hydrogen sulfide, chlorine, ammonia, sulfur, chlorinated gas, acid, alkali, salt, etc., or combustible materials.

3.1.3 Installation environment

The installation environment of the servo drive has a direct impact on the normal function of it and its service life. Therefore, the installation environment of servo drive must meet the following conditions:

ltem	Specification		
Ambient temperature	-10 $^{\circ}$ C to 40 $^{\circ}$ C (no freezing)		
Ambient humidity	-20% to 90%RH (non-condensing)		
Storage temperature	-20℃ to 60℃		
Storage humidity	-20% to 90%RH (non-condensing)		
Protection grade	IP65		
Vibration	Less than 0.5G (4.9m/s2), 10 to 60Hz (non-continuous operation)		
Power Systems	TN system*		

Note:

*: The neutral point of the power system is directly connected to the ground, and the exposed metal components are connected to the ground through a protective grounding conductor.



3.1.4 Installation matters

(1) Installation specifications

In order to achieve a good cooling cycle effect, ensure that there is enough ventilation space around it when installing the servo drive, and be sure to comply with the installation standards in the control cabinet shown in the figure below, otherwise it may cause the drive to malfunction. For typical minimum installation dimensions, please refer to Figure 3-4.

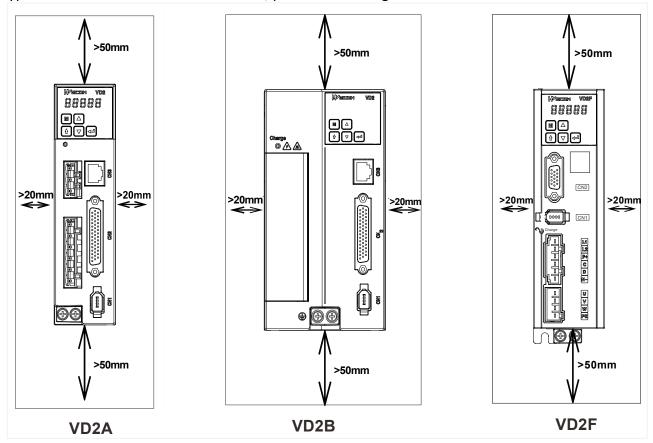


Figure 3-4 Minimum installation size

(2) Parallel installation

When multiple units are installed in parallel, the minimum distance between each other should be 20mm, and the distance between each other should be at least 100mm. Please refer to Figure 3-5 and Figure 3-6 for details. To prevent temperature rise, a cooling fan can be placed on the upper part. If you need a smaller spacing installation, please consult us.



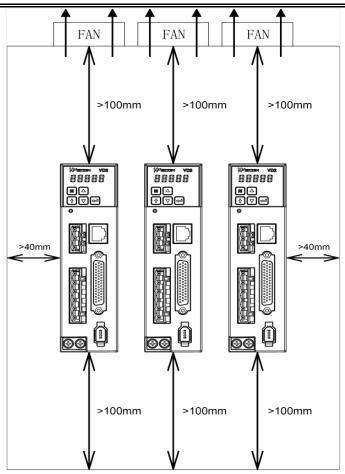


Figure 3-5 Parallel installation dimensions of multiple VD2A drives

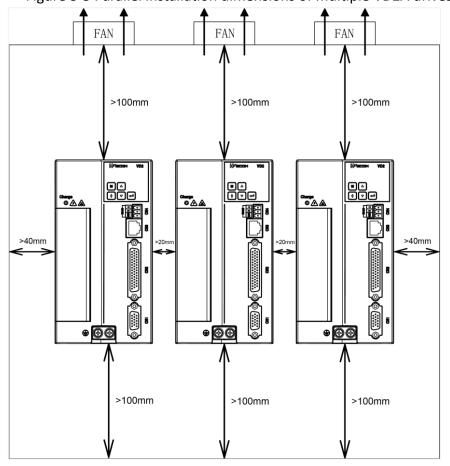


Figure 3-6 Parallel installation dimensions of multiple VD2B drives



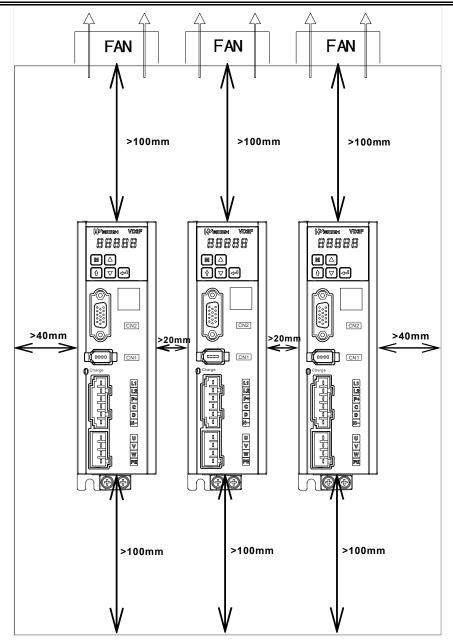


Figure 3-7 Parallel installation dimensions of multiple VD2F drives

(3) Installation direction

When installing the servo drive, please face the front of the servo drive (panel control interface) to the operator so that the servo drive is perpendicular to the wall.



3.2 Installation of servo motor

3.2.1 Installation dimensions (unit: mm)

(1) Installation dimensions of WD series 40 flange servo motor

Specification	WD series 40 flange motor
Rated torque (N.m)	0.318
LA without brake (mm)	74.8
LA with brake (mm)	108

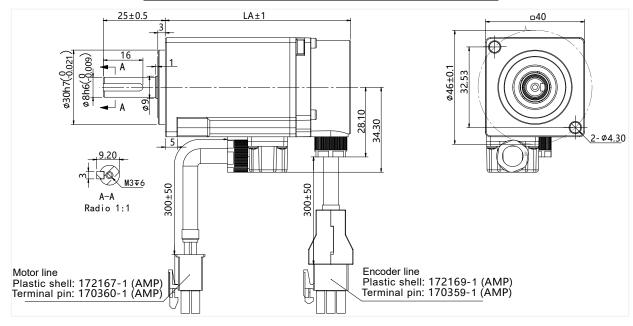


Figure 3-8 Installation dimension of WD series 40 flange servo motor

(2) Installation dimensions of WD series 60 flange servo motor

Specification	WD series 60 flange motor		
Rated torque (N.m)	0.64	1.27	
LA without brake (mm)	75	92	
LA with brake (mm)	104.5	121.5	

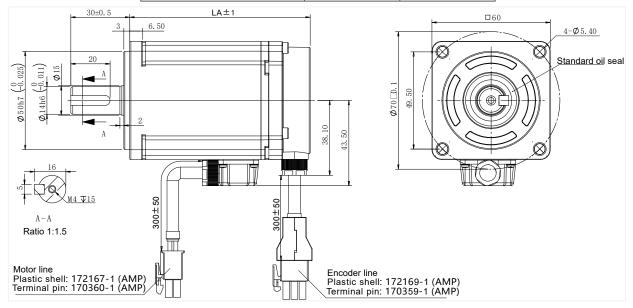


Figure 3-9 Installation dimension of WD series 60 flange servo motor



(3) Installation dimensions of 80 flange servo motor

1) WD series motor

Specification	WD series 80 flange motor
Rated torque (N.m)	2.39
LA without brake (mm)	98.5
LA with brake (mm)	132.5

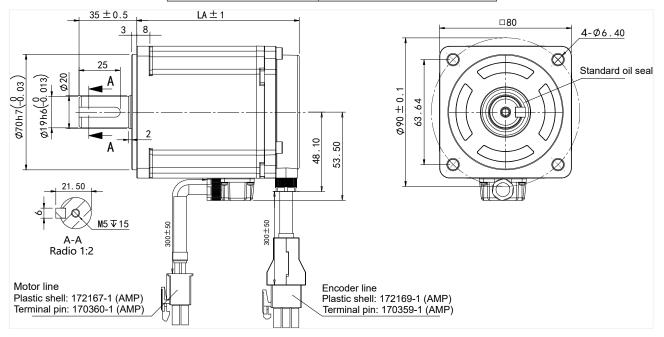


Figure 3-10 Installation dimension of WD series 80 flange motor

2) WE series motor

Specification	WE series 80 flange motor		
Rated torque (N.m)	3.5	4.0	
LA without brake (mm)	179	191	
LA with brake (mm)	221	233	

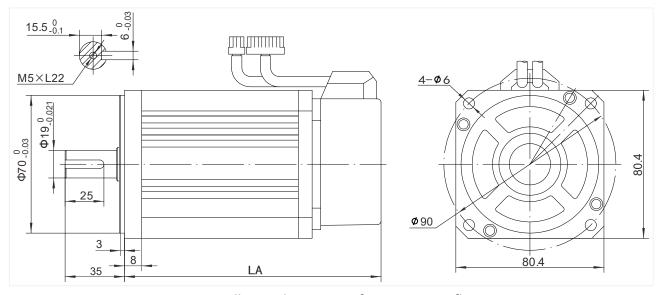


Figure 3-11 Installation dimension of WE series 80 flange motor



(4) Installation dimensions of WE series 110 flange servo motor

Specification	WE series 110 flange motor		
Rated torque (N.m)	4	5	6
LA without brake (mm)	189	204	219
LA with brake (mm)	254	269	284

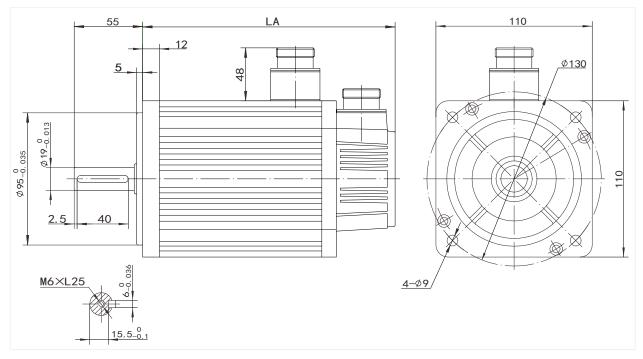


Figure 3-12 Installation dimension of WE series 110 flange servo motor

(5) Installation dimensions of the 130 flange servo motor

Specification	WE series 130 flange motor							
Pated torque (N m)	4	_	6	7.7	10		15	
Rated torque (N.m)	4	5			1500rpm	2000rpm	1500rpm	2500rpm
LA without brake (mm)	166	171	179	192	213	209	241	231
LA with brake (mm)	226	231	239	252	276	272	304	294

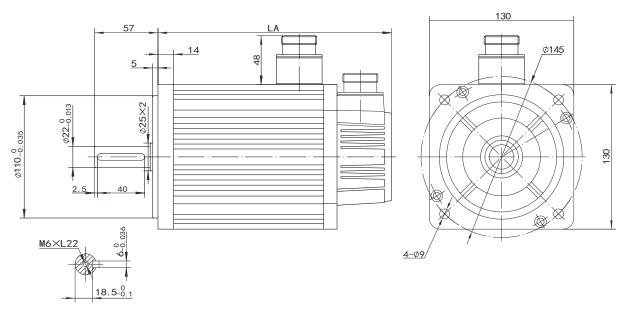


Figure 3-13 Installation dimension of WE series 130 flange servo motor



3.2.2 Installation site

- ① Do not use the motor near corrosive, flammable gas environment, combustible materials such as hydrogen sulfide, chlorine, ammonia, sulfur, chlorinated gas, acid, alkali, salt, etc.
- 2 Do not remove the oil seal in places where there is grinding fluid, oil mist, iron powder, cutting, etc.
- 3 Do not use the motor in a closed environment. Closed environment will cause high temperature of the motor and shorten the service life.
- 4 A place far away from heat sources such as stoves.

3.2.3 Installation environment

The installation environment of the servo motor has a direct impact on the normal function of it and its service life. Therefore, the installation environment of the servo motor must meet the following conditions:

Item	Specification
Ambient temperature	-10 $^{\circ}$ C to 40 $^{\circ}$ C (no freezing)
Ambient humidity	-20% to 90%RH (non-condensing)
Storage temperature	-20℃ to 60℃
Storage humidity	-20% to 90%RH (non-condensing)
Protection grade	IP65
Vibration	Less than 0.5G (4.9m/s2), 10 to 60Hz (non-continuous operation)

3.2.4 Installation precautions

Item	Specification
Rust inhibitor	Before installation, please wipe clean the "rust inhibitor" on the shaft extension end of the servo motor, and then do the relevant anti-rust treatment.
	When installing a pulley on a servo motor shaft with a keyway, use a screw hole at the shaft end. In order to install the pulley, first insert the double-headed nail into the screw hole of the shaft, use a washer on the surface of the coupling end, and gradually lock the pulley into the pulley with a nut; For the servo motor shaft with keyway, use the screw hole on the shaft
Encoder notice	end to install; Solution of the serve motor shart with keyway, use the strew hole of the shart end to install; For shafts without keyway, friction coupling or similar methods are used; When removing the pulley, use a pulley remover to prevent the bearing
	from being strongly impacted by the load; To ensure safety, install a protective cover or similar device in the rotating area, such as a pulley installed on the shaft.
Centering	When linking with the machine, please use the coupling, and keep the axis of the servo motor and the axis of the machine in a straight line.
Installation direction	The servo motor can be installed horizontally or vertically.
Oil and water counter measures	When using in a place with dripping water, please use it after confirming the protection level of the servo motor. When using it in a place where oil drips on the shaft penetration part, do not remove the oil seal of the servo motor. The use conditions of the servo motor with oil seal:



	When using, please make sure the oil level is lower than the lip of the oil
	seal;
	The oil seal can be used in a state with a good degree of splashing of oil
	foam;
	When the servo motor is installed vertically upwards, please be careful
	not to accumulate oil on the oil seal lip.
Stress condition of	Do not "bend" the wire or apply "tension" to it, especially the signal wire
the cable	whose core diameter is 0.2mm or 0.3mm. During the wiring process,
	please do not make it too tight.
	Regarding the connector part, please note the following:
	When connecting the connector, please make sure that there is no
	foreign matter such as garbage or metal pieces in the connector;
	Swhen connecting the connector to the servo motor, be sure to connect
	it from the side of the main circuit cable of the servo motor first, and the
	grounding of the main line cable must be reliably connected. If you connect
Processing of the	one side of the encoder cable first, the encoder may malfunction due to
connector part	the potential difference between PEs;
part part	When connecting, please make sure that the pin arrangement is correct;
	The connector is made of resin, please do not apply impact to avoid
	damage to the connector;
	Do not apply stress to the connector part while carrying the cable while
	the cable is connected. If stress is applied to the connector part, the
	connector may be damaged.



4. Wiring

4.1 Main circuit wiring

4.1.1 Main circuit terminals

(1) VD2A servo drive main circuit terminal distribution

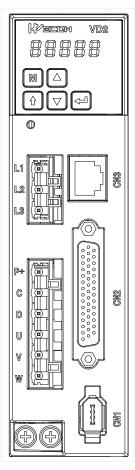


Figure 4-1 VD2A servo drive main circuit terminal distribution

Terminal number	Terminal name	Terminal function
L1	Dower input	
L2	Power input terminal	Single-phase 220V AC input is connected to L1 and L3.
L3	terrimai	
P+		Use internal braking resistor: short-circuit C and D.
С	Braking resistor terminal	Use external braking resistor: Please disconnect the short wire between C and D, and then connect the external braking resistor
D		between P+ and C;
U	N/oton morror	
V	Motor power line terminal	Connect with the U, V and W of motor to power the motor.
W	inie terminai	
Ground terminal	Ground terminal	Grounding treatment of servo drive.

Table 4-1 The name and function of VD2A servo drive () main circuit terminal



(2) VD2B servo drive main circuit terminal distribution

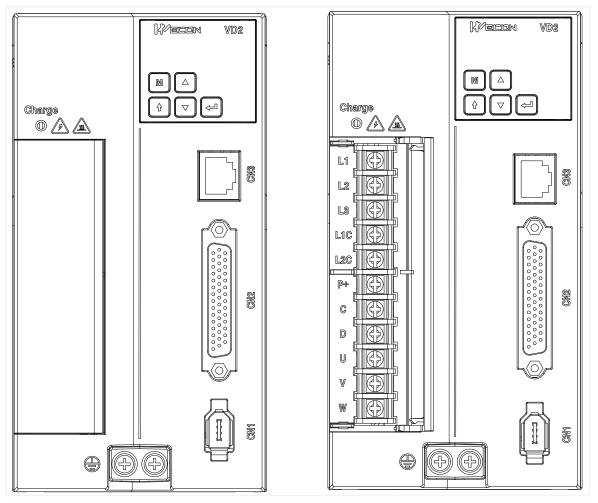


Figure 4-2 VD2B servo drive main circuit terminal distribution

Terminal number	Terminal name	Terminal function
L1	Dower innut	Three phase 220V AC input is connected to 11 12 12.
L2	Power input terminal	Three-phase 220V AC input is connected to L1, L2, L3; Single-phase 220V AC input is connected to L1 and L3.
L3	terriniai	Single-phase 220V AC input is connected to L1 and L5.
L1C	Control power	Single-phase 220V AC input is connected to L1C and L2C.
L2C	input terminal	Single-phase 220V AC input is connected to LTC and L2C.
P+	Braking	Use internal braking resistor: short-circuit C and D.
С	resistor	Use external braking resistor: Please disconnect the short wire
D	terminal	between C and D, and then connect the external braking resistor between P+ and C.
U	Maternauer	
V	Motor power line terminal	Connect with the U, V and W of motor to power the motor.
W	inie terminal	
Ground	Ground	Grounding treatment of servo drive.
terminal	terminal	Grounding treatment of servo unive.

Table 4-2 The name and function of VD2B servo drive (220V) main circuit terminal



(3) VD2F servo drive main circuit terminal distribution

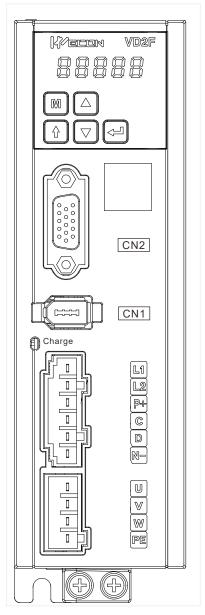


Figure 4-3 VD2F servo drive main circuit terminal distribution

Terminal number	Terminal name	Terminal function
L1	Power input	Connect single-phase 220V input power
L2	terminal	Connect single-phase 220v input power
P+		Use internal braking resistor: short-circuit C and D.
С	Braking resistor terminal	Use external braking resistor: Please disconnect the short wire between C and D, and then connect the external braking
D		resistor between P+ and C.
P+	Common DC	DC bus terminal of servo drive
N	bus terminal	DC bus terrification servo unive
U	Motor nower	
V	Motor power line terminal	Connect with the U, V and W of the motor to power the motor.
W	iiiie terminai	
PE	Ground terminal	Grounding treatment of the servo drive.

Table 4-3 The name and function of VD2F servo drive main circuit terminal



4.1.2 Power wiring

(1) VD2SA drive single-phase 220V main circuit wiring

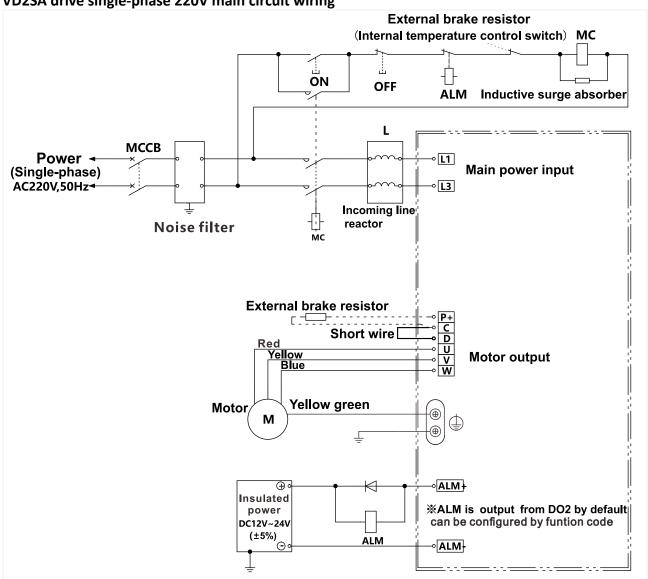


Figure 4-4 VD2A drive single-phase 220V main circuit wiring



(2) VD2B drive single-phase 220V main circuit wiring

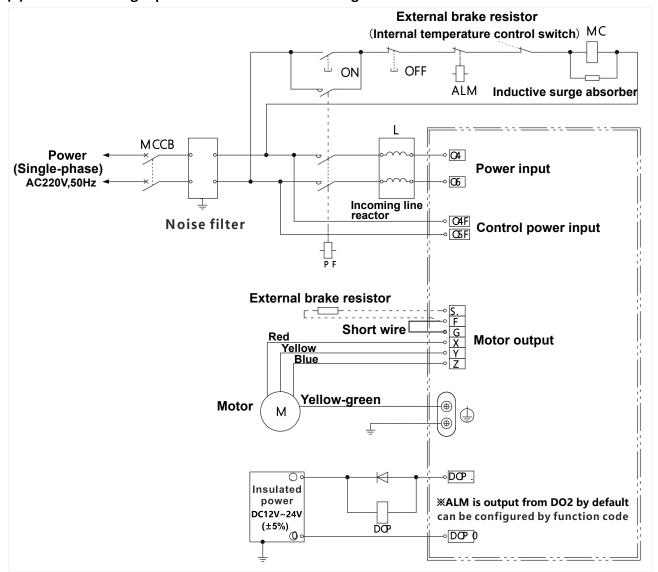


Figure 4-5 VD2B drive single-phase 220V main circuit wiring



(3) VD2B drive three-phase 220V main circuit wiring

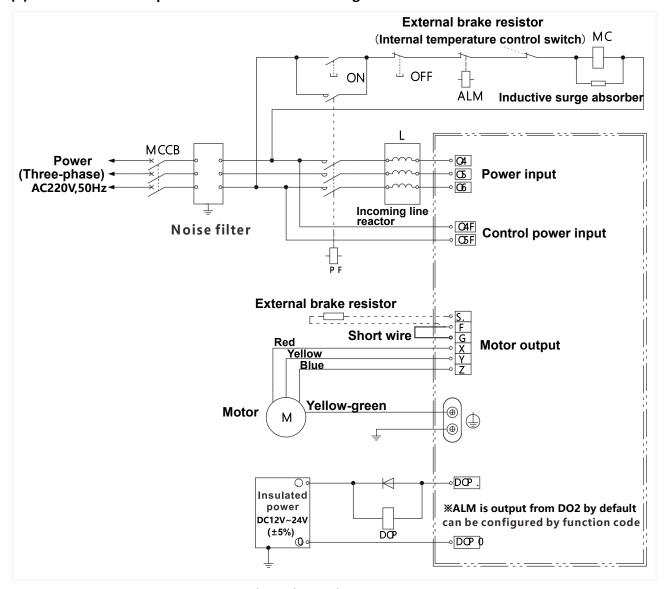


Figure 4-6 VD2B drive three-phase 220V main circuit wiring



(4) VD2F drive single-phase 220V main circuit wiring

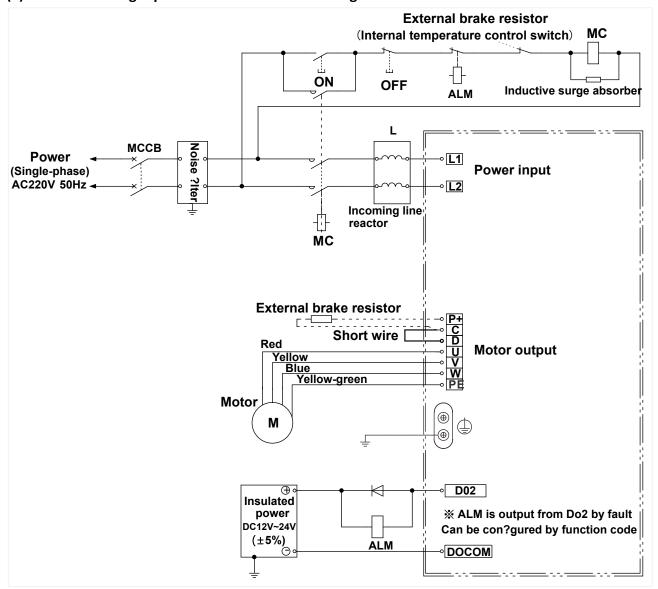


Figure 4-7 VD2F drive single-phase 220V main circuit wiring



4.1.3 Precautions for main circuit wiring

- ① Do not connect the input power cord to the output terminals U, V, W, otherwise the servo drive will be damaged. When using the built-in braking resistor, C and D must be connected (factory default connection).
- 2 When the cables are bundled and used in pipes, etc., due to the deterioration of heat dissipation conditions, please consider the allowable current reduction rate.
- ③ When the temperature in the cabinet is higher than the cable temperature limit, please choose a cable with a larger cable temperature limit, and it is recommended that the cable wire use Teflon wire. Please pay attention to the warmth of the cable in the low temperature environment. Generally, the surface of the cable is easy to harden and break under the low temperature environment.
- 4 The bending radius of the cable should be more than 10 times the outer diameter of the cable itself to prevent the core of the cable from breaking due to long-term bending.

4.2 Power line connection of servo drive and servo motor

4.2.1 Power line

Wecon VD2 series servo drives have 3 kinds of interface power cables: rectangular plug, aviation plug and in-line type.

Connector exterior	Terminal pin distribution	Pin description			Motor flange
	4		Rectangular plu	g	
	$\frac{4}{2}$	Pin number	Signal name	Color	40
		1	U	Red	40 60
A		2	V	White	80
	3 1	3	W	Black	
		4	PE	Yellow-green	
	1		Aviation plug		
	2	Pin number	Signal name	Color	
		2	U	Black	110
		4	V	Yellow-green	130
		3	W	Black	
	4	1	PE	Black	
			In-line type plu	g	
		Pin number	Signal name	Color	
		3	U	Red	60
	3——————————————————————————————————————	1	V	White	80
	1	2	W	Black	
	т—				

Table 4-4 Power cable servo motor side connector

Note: The color of the lines is subject to the actual product. The lines described in this manual are all lines of Wecon.



4.2.2 Brake device cable

	Connector exterior		terminal pin distribution		
WD series	2 1	Pin number 1 2	Signal name BR+ BR-	40 60 80	
WE series	2 3	Pin number 1 2 3	Signal name DC 24V GND	80 110 130	

Table 4-5 Brake device cable

4.3 Encoder cable connection of servo drive and servo motor

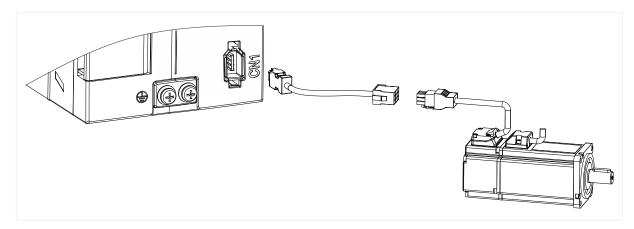


Figure 4-8 Encoder connection line wiring

Connector exterior	Terminal pin distribution	Pin description			
	5 6	Pin number	Signal name	Pin number	Signal name
	3 1 1 4	1	5V	4	-
	1 0 02	2	GND	5	SD+
		3	-	6	SD-

Table 4-6 Encoder cable servo drive side connector

Connector exterior and terminal pin distribution		Motor flange
	Encoder pinout	
Connector of endoder pinout Connect servo drive CN1		40 60 80



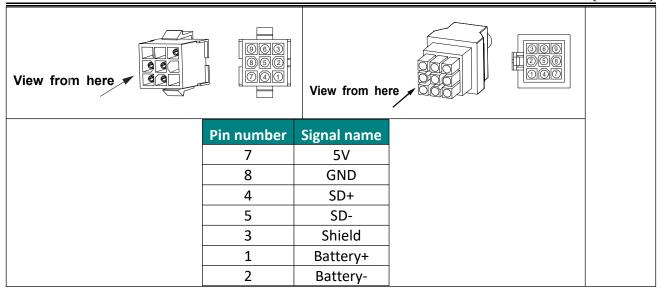


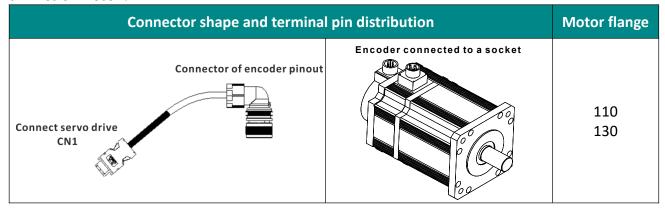
Table 4-7 Absolute value encoder line connector (Rectangular plug)

Drive sid	de J1394		Motor side		
Pin number	Signal name	Description	Rectangular plug pin number	Cable color	
1	5V	Encoder +5V power	7	Blue	
2	GND	Encoder power ground	8	Orange	
5	SD+	Serial communication signal +	4	Green	
6	SD-	Serial communication signal -	5	Brown	
Shell	Shield	Shield	3	-	
-	-	Battery+	1*	Pink	
-	-	Battery-	2*	Pink-Black	

Table 4-8 Connection of encoder line pin

The pin with "*" indicates the signal line of encoder battery. If the multi-turn battery memory function is not used, you don't need to connect the signal lines. It is only used as single turn encoder line at this time.

Note: The color of the line is subject to the actual product. The lines described in this manual are all lines of Wecon!





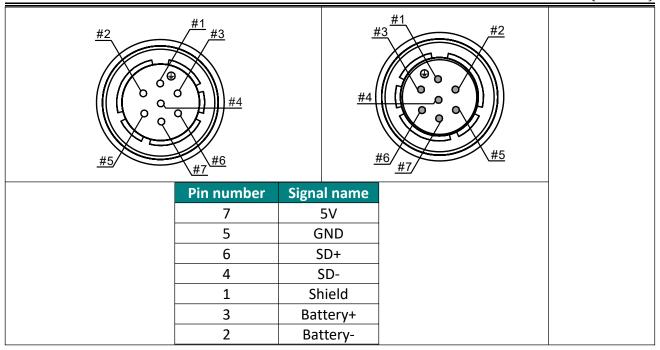


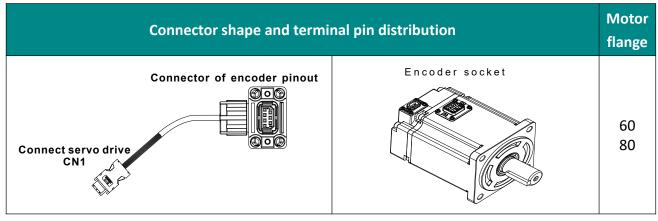
Table 4-9 Absolute value encoder line connector (Aviation plug)

Drive side J1394			Motor side		
Pin number	Signal name	Description	Aviation plug pin number	Cable color	
1	5V	Encoder +5V power	7	Blue	
2	GND	Encoder power ground	5	Orange	
5	SD+	Serial communication signal +	6	Green	
6	SD-	Serial communication signal -	4	Brown	
Shell	Shield	Shield	1	-	
-	-	Battery+	3*	Pink	
-	-	Battery-	2*	Pink-Black	

Table 4-10 Absolute encoder cable connector (aviation socket)

The pin with "*" indicates the signal line of encoder battery. If the multi-turn battery memory function is not used, you don't need to connect the signal lines. It is only used as single turn encoder line at this time.

Note: The color of the cable is subject to the actual product. The cables described in this manual are all cables of Wecon!





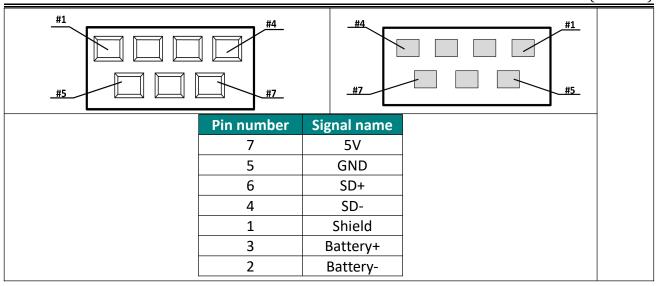


Table 4-11 Absolute encoder cable connector (in-line type)

Drive side J1394			Motor side		
Pin number	Signal name	Description	In-line plug pin number	Cable color	
1	5V	Encoder +5v power	7	Blue	
2	GND	Encoder power ground	5	Orange	
5	SD+	Serial communication signal +	6	Green	
6	SD-	Serial communication signal -	4	Brown	
Shell	Shield	Shield	1	-	
-	-	Battery+	3*	Brown	
-	-	Battery-	2*	Black	

The pin with "*" indicates the signal line of encoder battery. If the multi-turn battery memory function is not used, you don't need to connect the signal lines. It is only used as single turn encoder line at this time.

Note:

The color of the cable is subject to the actual product. The cables described in this manual are all cables of Wecon!



4.4 Servo drive control input and output wiring

4.4.1 CN2 pin distribution

(1) VD2A and VD2B servo drive control input and output pin distribution (CN2 interface)

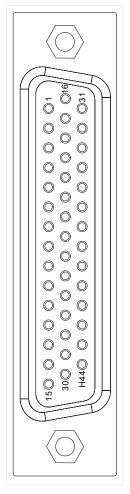


Figure 4-9 VD2A and VD2B servo drive control input and output pin distribution

Tigare 13 VDZ/ (and VDZD Serve arrive control impactant output pin alsembation					
Pin number	Signal name	Pin number	Signal name	Pin number	Signal name
1	-	16	GND	31	-
2	AI_2+	17	GND	32	AI_1+
3	AI_2-	18	-	33	Al_1-
4	DO1-	19	DO3-	34	GND
5	DO1+	20	DO3+	35	-
6	DO2-	21	DO4-	36	-
7	DO2+	22	DO4+	37	-
8	SS	23	DI5	38	-
9	DI1	24	DI6	39	-
10	DI2	25	DI7	40	SIGN-
11	DI3	26	DI8	41	SIGN+
12	DI4	27	GND	42	PULS-
13	PAO-	28	PAO+	43	PULS+
14	PBO-	29	PBO+	44	PL
15	PZO-	30	PZO+		

Table 4-12 CN2 interface definition of VD2A and VD2B servo drive



(2) VD2F servo drive control input and output pin distribution (CN2 interface)

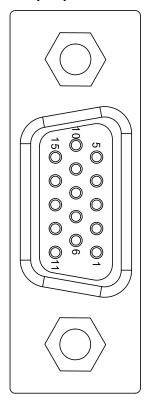


Figure 4-10 VD2F servo drive control input and output pin distribution

Pin number	Signal name	Pin number	Signal name	Pin number	Signal name
1	DO3	6	DO4	11	PL
2	DO1	7	DO2	12	PULS+
3	SS	8	DOCOM	13	PULS-
4	DI3	9	DI4	14	SIGN+
5	DI1	10	DI2	15	SIGN-

Table 4-13 CN2 interface definition of VD2F servo drive



4.4.2 Wiring diagram of each mode

(1) VD2A and VD2B servo drive

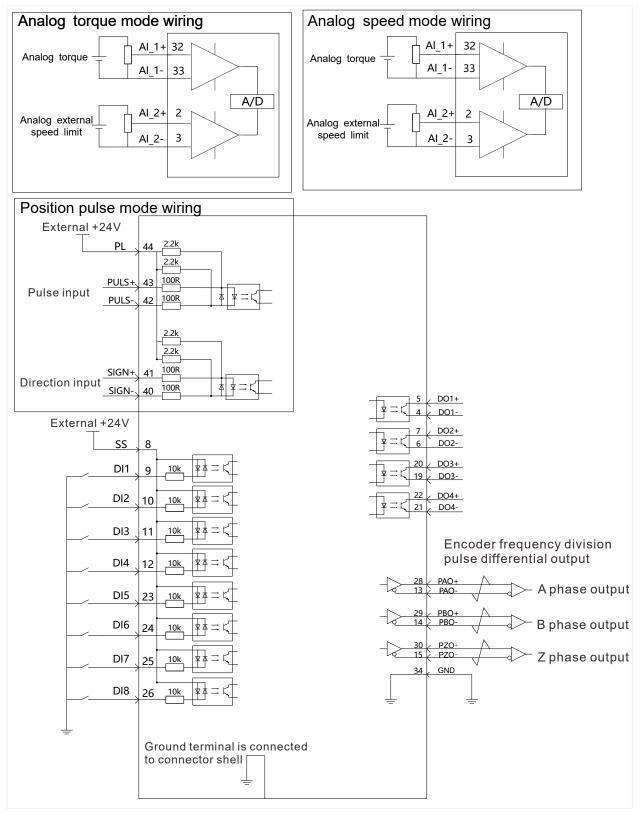


Figure 4-11 Wiring diagram of each mode

Note: Please refer to "4.4.1 Table 4-12 CN2 interface definition of VD2A and VD2B servo drive" for the pin numbers in the figure.



(2) VD2F servo drive

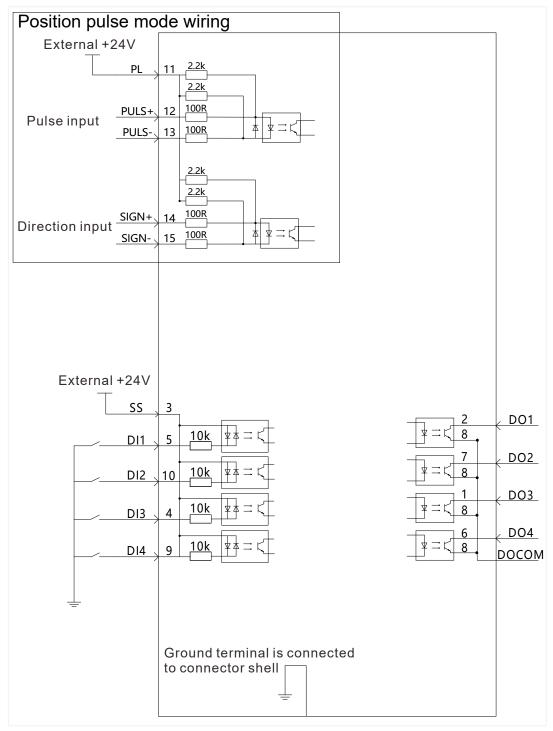


Figure 4-12 Position pulse mode wiring

Note: Please refer to "4.4.1 Table 4-13 CN2 interface definition of VD2F servo driveTable 4-13 CN2 interface definition of VD2F servo drive" for the pin numbers in the figure.



4.4.3 Position instruction input signal

Signal name	VD2A and VD2B pin number	VD2F pin number	Function
PULS+	43	12	Low-speed pulse input modes: differential input, open collector.
PULS-	42	13	There are three types of input pulse: 1 Direction + pulse (positive logic)
SIGN+	41	14	② CW/CCW
SIGN-	40	15	③ A and B phase quadrature pulses (4 times the frequency).
PL	44	11	External power input interface for instruction pulse.

Table 4-14 Position instruction signal description

The instruction pulse and sign output circuit on the host device side can be selected from differential output or open collector output. The maximum input frequency is shown in the table.

Pulse method	Maximum frequency
Difference	500KHz
Open collector	200KHz

(1) Differential input

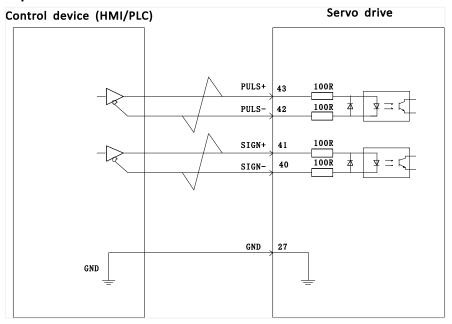


Figure 4-13 VD2A and VD2B servo drive differential input connection



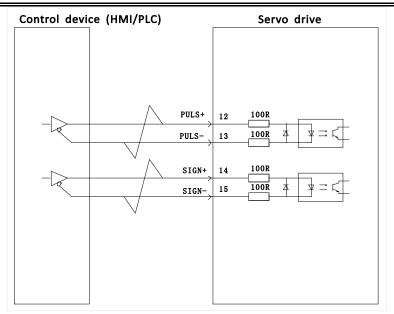


Figure 4-14 VD2F servo drive differential input connection

(2) Open collector input

1) Open collector input connection

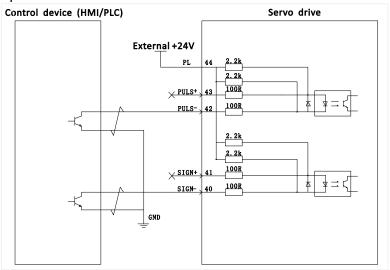


Figure 4-15 VD2A and VD2B servo drive open collector input connection

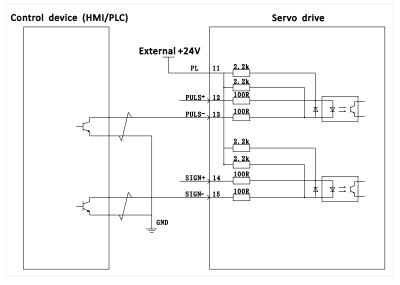


Figure 4-16 VD2F servo drive open collector input connection



2) NPN and PNP wiring

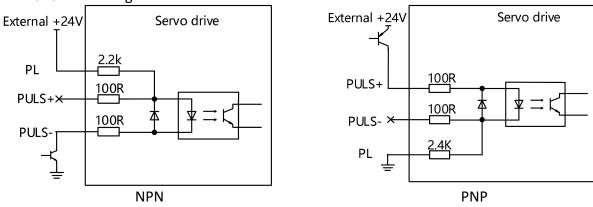


Figure 4-17 Triode Wiring

4.4.4 Analog input signal

The analog input signal is only supported by VD2A and VD2B servo drives.

Pin number	Signal name	Function	
32	AI_1+	AI_1 analog input signal, resolution 12-bit.	
33	Al_1-	Input voltage range: -10V to +10V.	
2	AI_2+	AI_2 analog input signal, resolution 12-bit.	
3	AI_2-	Input voltage range: -10V to +10V.	
17	GND	Analog input signal ground.	
34	GND	Analog input signal ground.	

Table 4-15 Analog input signal description

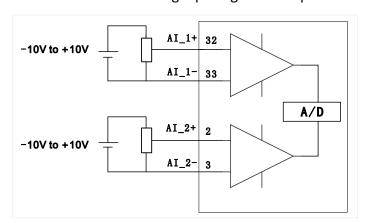


Figure 4-18 Analog input wiring



4.4.5 Digital input and output signals

(1) VD2A and VD2B servo drives

Pin number	Signal name	Default function
9	DI1	Servo enable
10	DI2	Fault and alarm clearance
11	DI3	Forward drive prohibited
12	DI4	Reverse drive prohibited
23	DI5	Inverted instruction
24	DI6	Instruction pulse prohibited input
25	DI7	Not used
26	DI8	Not used
8	SS	Power input (24V)
4	DO1-	Potation detection
5	DO1+	Rotation detection
6	DO2-	Foult signal
7	DO2+	Fault signal
19	DO3-	Coming to wood.
20	DO3+	Servo is ready
21	DO4-	Desitioning completed
22	DO4+	Positioning completed

Table 4-16 DI/DO signal description

1) Digital input circuit

1 When the control device (HMI/PLC) is relay output

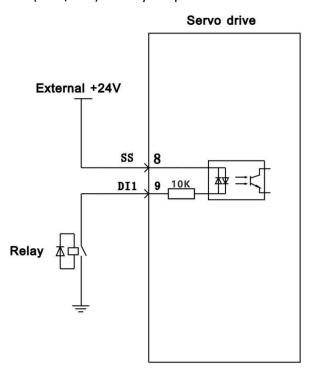


Figure 4-19 Relay output



2 When the control device (HMI/PLC) is open collector output

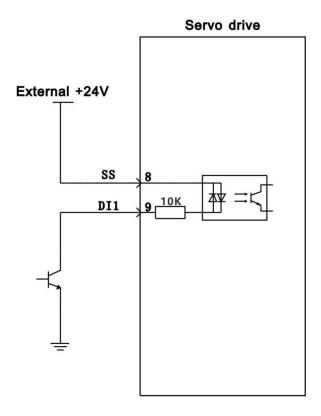


Figure 4-20 Open collector output

2) Digital output circuit

1 When the control device(HMI/PLC) is relay input

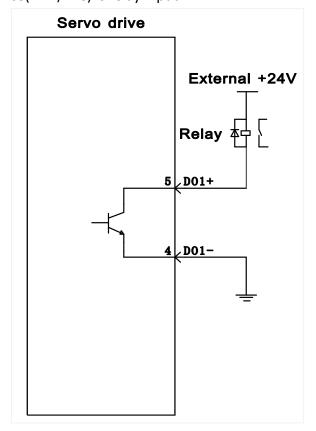
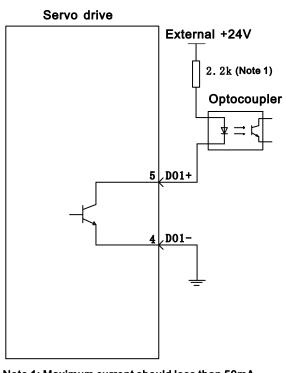


Figure 4-21 Relay input



2 When the control device (HMI/PLC) is optocoupler input



Note 1: Maximum current should less than 50mA

Figure 4-22 Optocoupler input

(2) VD2F servo drive

Pin number	Pin name	Default function
5	DI1	Servo enable
10	DI2	Fault and alarm clearance
4	DI3	Forward drive prohibited
9	DI4	Reverse drive prohibited
3	SS	Power input (24V)
2	DO1	Rotation detection
7	DO2	Fault signal
1	DO3	Servo is ready
6	DO4	Positioning completed
8	DOCOM	Do common terminal

Table 4-17 DI/DO signal description



1) Digital input circuit

1) When the control device (HMI/PLC) is relay output

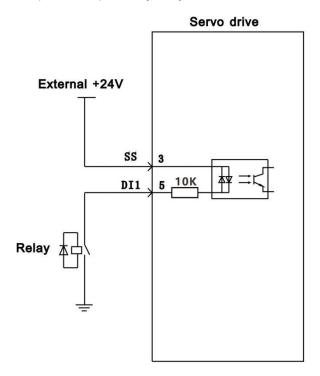


Figure 4-23 Relay output

② When the control device (HMI/PLC) is open collector output

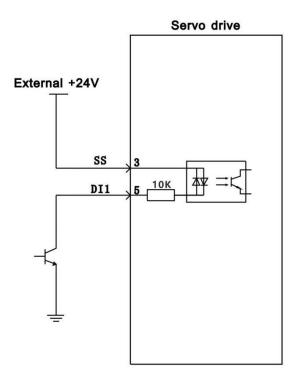


Figure 4-24 Open collector output



2) Digital output circuit

1) When the control device (HMI/PLC) is relay input

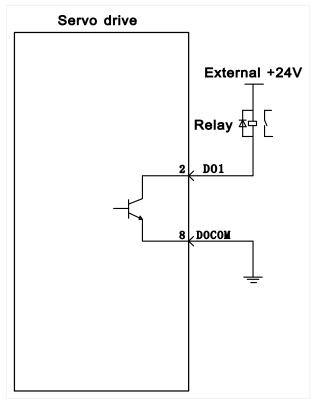


Figure 4-25 Relay output

2 When the control device (HMI/PLC) is optocoupler input

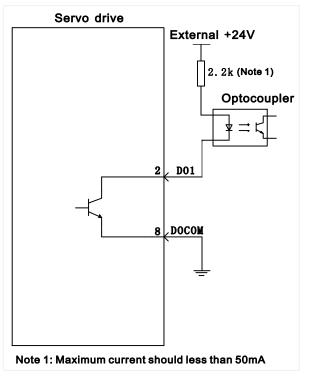


Figure 4-26 Optocoupler input



4.4.6 Brake wiring

The brake is a mechanism that prevents the servo motor shaft from moving when the servo drive is in a non-running state, so that the motor remains in position lock, so that the moving part of the machinery will not move due to self-weight or external force.

Brake input signal is no polar. You need to use 24V power. The standard wiring between brake signal BK and brake power is as below.

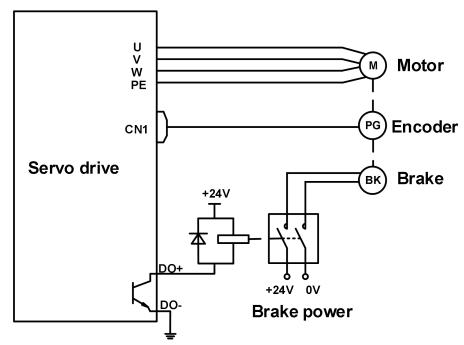


Figure 4-27 Brake wiring of VD2A and VD2B

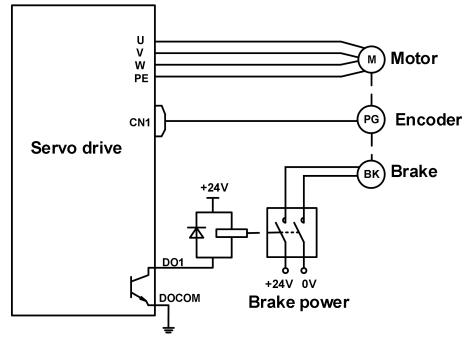


Figure 4-28 Brake wiring of VD2F

4.5 Communication signal wiring

Wecon VD2 series servo drive supports two communication modes: RS-422 and RS-485. The communication port is RJ45 socket. The exterior of communication terminal is shown in Figure 4-29.



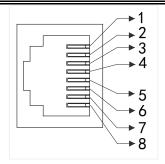


Figure 4-29 Pin number of an RJ45 socket

The communication modes supported by the driver communication ports are in the following table.

	VD2 A&VD2 B		VD2F
Port	Communication mode	Port	Communication mode
CN3	Only RS422	CN3	RS422, RS485 communication mode
CN5		CNA	choose one of two. Set by function code
CNS	Only RS485	Only RS485	P12-05
CN6		®Note : ⊤	he CN3 and CN4 interfaces are physically
Ø Noto. T	Note: The CN5 and CN6 interfaces are		I and are actually the same communication
			interface. When P12-05 is set to 1, CN3 and CN4 use
physically connected and are actually the		RS485 communication mode. If the value is set to 0,	
Same Con	same communication interface.		RS422 communication mode.

Table 4-18 Communication port communication modes

4.5.1 Communication connection with servo host computer (RS422)

Servo drives communicate with the host computer via RS422 communication. A USB to RS422 (RJ45 connector) cable is required for communication, and you need to equip it by yourselves.

(1) VD2A&VD2B

VD2A and VD2B servo drives communicate with the host computer via the CN3 interface by RS422 communication. Figure 4-32 and Figure 4-33 show the communication connections.

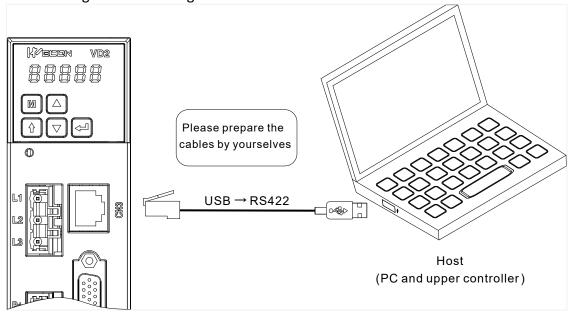


Figure 4-30 The Connection between VD2A drive and PC



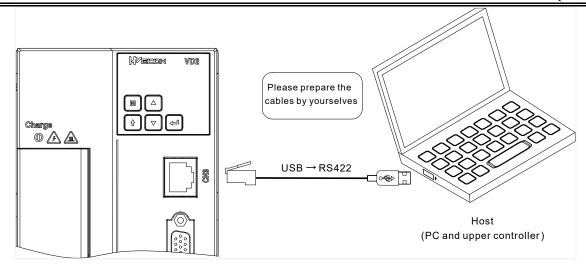


Figure 4-31 The connection between VD2B drive and PC

CN3	Pin	Name	Function description
	1	RX-	Computer sends negative terminal (drive receives negative)
1	2	RX+	Computer sends positive terminal (drive receives positive)
3	3	TX-	Computer receives negative terminal (drive sends negative)
4	4	GND	Ground terminal
→5	5	NC	Not used
→ 6 → 7	6	TX+	Computer receives positive terminal (drive sends positive)
8	7	NC	Not used
	8	NC	Not used

Table 4-19 VD2A and VD2B pin definitions for CN3

(2) VD2F

VD2F servo drive communicates with the host computer via the CN3 or CN4 interface byRS422 communication. The communication diagrams of VD2F servo drive and host computer are shown in Figure 4-34.

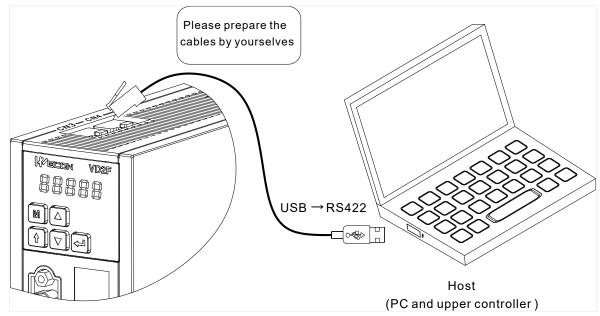


Figure 4-32 The connection between VD2F drive and PC



CN3&CN4	Pin	Name	Function description
	1	RX-	Computer sends negative terminal (drive receives negative)
1	2	RX+	Computer sends positive terminal (drive receives positive)
3	3	TX-	Computer receives negative terminal (drive sends negative)
	4	GND	Ground terminal
→5	5	NC	Not used
6	6	TX+	Computer receives positive terminal (drive sends positive)
8	7	NC	Not used
	8	NC	Not used

Table 4-20 VD2F pin definitions for CN3 and CN4 interfaces

4.5.2 Communication connection with PLC and other device (RS485)

VD2A and VD2B servo drives communicate with PLC and other devices for Modbus via CN5 or CN6 interface (located on the top of servo drive) by RS485 communication.

CN5&CN6	Pin	Name	Function description
	1	485+	Computer sends negative terminal (drive receives negative)
<u></u> 1	2	485-	Computer sends positive terminal (drive receives positive)
2 3	3	NC	Not used
4	4	GND	Ground terminal
5	5	GND	Ground terminal
6	6	NC	Not used
8	7	Reserved	Reserved
	8	GND	Ground terminal

Table 4-21 The pin definition of CN5/CN6 interface

VD2F servo drives communicate with PLC and other devices for Modbus via CN3 or CN4 interface (located on the top of servo drive) by RS485 communication.

CN3&CN4	Pin	Name	Function description
	1	485+	Computer sends negative terminal (drive receives negative)
<u>1</u>	2	485-	Computer sends positive terminal (drive receives positive)
2 3	3	-	Computer receives negative terminal
4	4	GND	Ground terminal
→5	5	-	Not used
6	6	-	Computer receives positive terminal
8	7	-	Not used
	8	-	Not used



5. Panel

5.1 Panel composition

The panel composition of the VD2 series servo drive is shown in Figure 5-1.(take VD2A servo drive as an example).

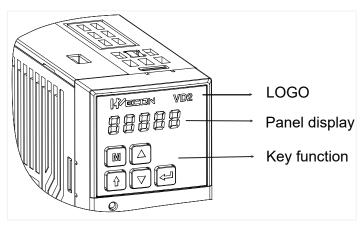


Figure 5-1 The exterior of VD2 A servo drive panel

The panel of the VD2 series servo drive consists of a display (5-digit LED nixie tube) and keys, which can be used for the execution of various displays, parameter settings and other functions of the servo drive. Taking parameter setting as an example, the general functions of the keys are shown in Table 5-1.

Icon	Name	Function		
	Mode	 Mode switching Return to the previous menu 		
	Increase	Increase the value of the LED flashing bit		
	Decrease	Decrease the value of the LED flashing bit		
Û	SHIFT key	 Change the LED flashing bit View the high-bit value of data with a length greater than 4-bit 		
T)	Enter (OK)	 Enter the next menu Execute commands such as storing parameter setting values 		

Table 5-1 Key functions

5.2 Panel display

When servo drive is in operation, the panel could be used for status display, parameter display, fault display and monitoring display of the servo.

Status display: Display the current operating status of servo drive.

Parameter display: Display the function codes corresponding to different functions and the set values of the function codes.

Fault display: Display the fault code of servo drive.

Monitor display: Display the current operating parameter values of servo drive.



5.2.1 Display switching

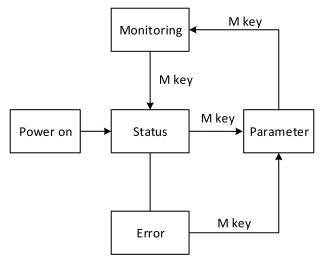


Figure 5-2 Switch between display types on the panel

Illustrate:

- 1) The power is turned on, and the panel display of the servo drive enters "Status Display Mode".
- 2 After an operation failure occurs, the panel immediately switches to the bit failure display mode. At this time, all the nixie tubes flash synchronously. Press the "mode" key to switch to the parameter display mode.
- 3 Press the "Mode" key to switch between different display modes, and the switching conditions are shown in Figure 5-2.

5.2.2 Status display

Display	Display occasion	Meaning
8.8.8.8.	Servo drive is powered on within 1 second	Servo drive is in initialization status
	Very short time after displaying "88888"	Initialization is complete
	1 second after servo drive is powered on, servo is ready	The servo is ready, waiting for the enable signal given by servo drive
run	Servo enable signal is valid	The servo drive is in an operational status, waiting for the instructions from host computer
	Servo drive is in jog operation	Jog operation settings

Table 5-2 Status display example

5.2.3 Parameter display

VD2 series servo drives are divided into 13 groups of function codes according to different parameter functions, which could quickly locate the position of function codes according to the function code groups. For specific parameters refer to <u>"6 Parameters"</u>.

(1) Parameter group display



The parameter display is the display of different function codes. The format of the function code is "PXX.YY". "PXX" indicates the group number of function code, and "YY" indicates the number within the function code group.

Display	Name	Content
PXX.YY	Function code group number	Number in function code group

For example: The function code P00.01 is displayed as follows.

Display	Name	Content
PIII	Function code P00.01	00: Function code group number 01: Number in the function code group

(2) Display of different length data

1) Display Data with four bits and below

Using single page display, if it is a signed number, the highest bit of the data is "-".

For example: The monitoring volume U0-02 is displayed as follows.

Display	Name	Content
-900	Monitoring volume U0-02	Servo motor speed

2) Display Data more than five bits

Display in pages from low to high bits, and each 4 bits is a page. Display method: current page + current value. As shown in <u>Figure 5-3</u> and <u>Figure 5-4</u>, switch current page by pressing the "shift" key. For example: 2147483646 is displayed as follows:

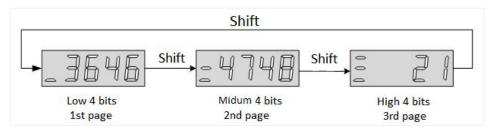


Figure 5-3 2147483646 display operation

For example: -2147483647 is displayed as follows:

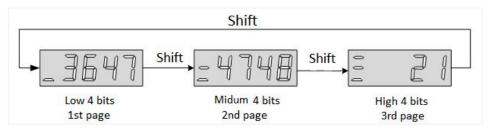


Figure 5-4 -2147483647 display operation

(3) Decimal point display

The "." of the one-digit indicates the decimal point, and it does not flash. The example is as follows.

Display	Name	Content
702.4	Decimal point	302.4



(4) Parameter setting display

Display	Name	Display occasion	Meaning
	Done		The servo drive is in the
ll daabl	Parameter setting	Parameter reset factory	process of parameter
	completed		factory reset
P. in it	P.Init		The servo drive is in the
	Parameter reset	Parameter reset factory	process of parameter
	factory		factory reset
F	Error	Parameter setting exceeds	Prompt that the
tror		the limit (or not allowed	parameter setting
	Parameter error	to exceed the limit)	exceeds the limit

Table 5-3 Parameter setting display

5.2.4 Fault display

The panel can display current or historical fault and warning codes. For analysis and troubleshooting of faults and warnings, please refer to "7 Faults".

When a single fault or warning occurs, the panel immediately displays the current fault or warning code; when multiple faults or warnings occur, the highest fault code is displayed. When a fault occurs, when switching from the auxiliary function to the parameter display function, the corresponding fault or warning code will be displayed. You can view the current fault and warning codes and the past five fault and warning codes through the monitor display on the panel.

Display	Name	Content
7-84	Parameter modification that needs to be powered on again	Modified the parameters that need to be re-powered to take effect

Table 5-4 Warning display example

Display	Name	Content
Er.J4	Motor overload protection	Motor overload protection

Table 5-5 Fault display example



5.2.5 Monitor display

After the servo drive is powered on or the servo enable is ON, you can press the "Mode" key to enter the monitor display mode.

Display	Monitoring volume	Name	Unit	Meaning
	U0-02	Servo motor speed	rpm	Indicates the actual operating speed of servo motor, expressed in decimal.
102.4	U0-31	Bus voltage	V	Indicates the voltage value between P+ and - of the drive, the DC bus voltage
DI8 DI6 DI4 DI2 DI7 DI5 DI3 DI1 Low High High High High High High High O 1 1 1 1 1 1 1	U0-17	Input signal status	-	Indicates the level status corresponding to the 8 DI terminals. The upper half of the LED light indicates high level, and the lower half light indicates low level. (The VD2F model has only 4 DI ports)
D04 D02 D03 D01 High High Low High 1 1 1 1	U0-19	Output signal status	-	Indicates the level status corresponding to the 4 DO terminals. The upper half of the LED light indicates high level, and the lower half light indicates low level.

Table 5-6 Monitoring volume display example



5.3 Panel operation

5.3.1 Parameter setting

Use the servo drive panel to set the parameters. For details about the parameters, please refer to <u>" 6 Parameters"</u>. Take P00.01 as an example to set the parameters to change the control mode of the servo drive from position control mode to speed control mode. The setting steps are shown in Figure 5-5.

Illustrate:

- 1) The power supply is in Rdy state after power on.
- (2) Press "Mode" key to enter the function code parameter interface.
- 3 Press "Confirm" key to enter the function code value modification interface after completing the function code selection.
- 4 Press the "Up" and "Down" keys to modify the parameter value.
- 5 Press the "Confirm" key twice to complete the value modification.

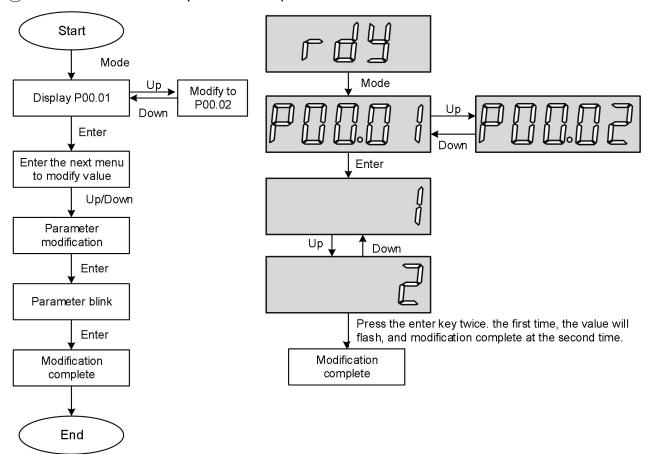


Figure 5-5 Schematic diagram of parameter setting steps



5.3.2 Jog operation

In order to test run the servo motor and the servo drive, you can use the jog running function. The operation steps are shown in Figure 5-6.

Illustrate:

- (1) Adjust the function code to P10.01 after power on.
- 2 Press the "Enter" key to enter the next menu to set the JOG jog speed.
- 3 After the "JOG jog speed" setting is completed, press the "Enter" key, the panel displays "JOG" in a flashing state, press the "Enter" key again to enter the JOG mode.
- 4 Long press the "Up" key and "Down" key to realize the forward and reverse rotation of the motor.
- (5) Press the "Mode" key to exit the JOG mode.
- 6 Reason for displaying Error: Please refer to <u>"7 Faults"</u> according to the corresponding fault codes.

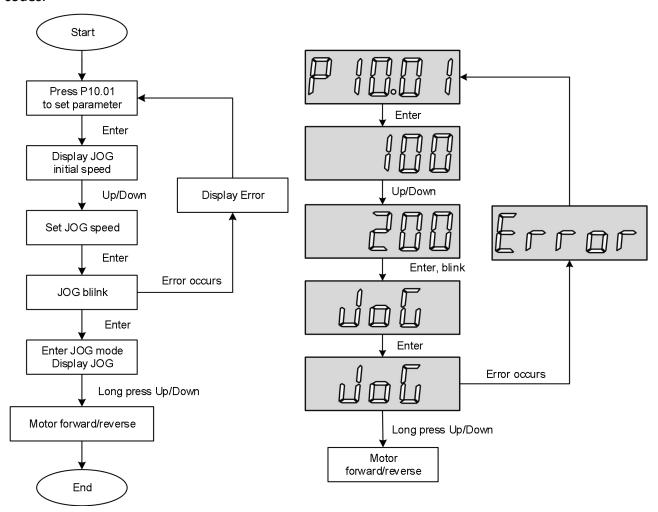


Figure 5-6 Jog operation setting steps



5.3.3 Factory reset

The factory settings can be restored through the servo drive panel. The specific operation steps are shown in Figure 5-7.

Illustrate:

- 1 After power on, modify the function code to P10.02.
- 2 Press the "Enter" key to enter the next menu to set the parameters.
- 3 Press the "Confirm" button after the parameter setting is finished, and the setting value will flash.
- 4 Press "Confirm" again, the panel digital tube will light up gradually from left to right until 8.8.8.8.8 is displayed.
- 5 Finally it displays "Done", the servo drive will be re-powered and the operation of factory reset is finished.
- 6 Reason for displaying Error: When the value of P10.02 exceeds the value range (0 to 1), Error is displayed.

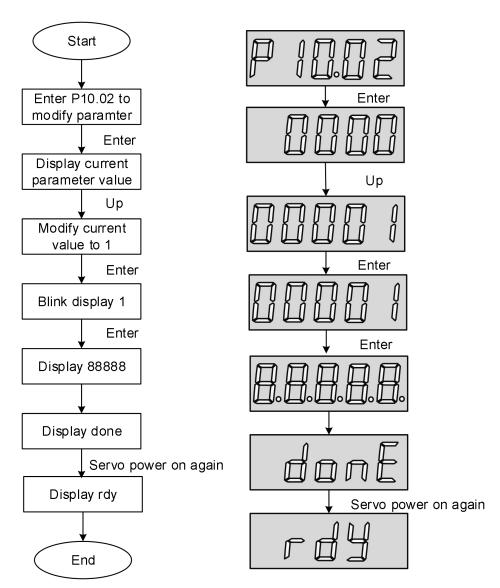


Figure 5-7 Steps for restoring factory settings

Torque control



6. Parameters

Group P00 Basic settings

	Parameter nam	ne	Setting metho	d Effective time	Defau	lt Ra	nge	Category	Unit
P00-01	Control mode		Shutdown	Effective	1	1	to 6	Basic setting	_
			setting	immediately				basic setting	
Used to s	et the control mod	le of s	ervo drive						
Setting value	Control mode			Ren	narks				
1	Position control			parameter setting,	please r	efer to f	ull ver	sion manual V1	.1
			Position contro						
2	Speed control	1	•	rameter setting, p	lease refe	er to full	versi	on manual V1.1	"6.3
	•		ed control mode	_					
3	Torque control	1		arameter setting, p	olease ref	er to fu	ll versi	on manual V1.1	. "6.4
	'		ue control mod						
		1		servo drive needs					deSel,
	Position/speed	mixe	_	on), and the DI terr					
4	mix control		IV	lixModeSel termin	al logic	Contr	ol mo	de	
	IIIIX COILLIOI			Invalid		Positio	n cont	rol	
				Valid		Speed	l contr	ol	
		A DI	terminal of the	servo drive needs	to be ass	igned to	funct	ion 17 (MixMod	deSel,
	Docition /towarra	mixe	ed mode sele <u>ctio</u>	on), and the DI terr	ninal logi	c is dete	ermine	ed to be valid.	
5	Position/torque mix control		N	lixModeSel termin	al logic	Contr	ol mo	de	
	mix control			Invalid		Positio	n cont	rol	
			Valid Torque control					rol	
		A DI	A DI terminal of the servo drive needs to be assigned to function					ion 17 (MixMod	deSel,
	Conned the server	mixe	ed mode selection	on), and the DI terr	ninal logi	c is dete	ermine	ed to be valid.	
6	Speed/torque		N	lixModeSel termin	al logic	Contr	ol mo	de	
	mix control			Invalid		Speed	Contr	ol	

Pool-04 Parameter name Setting method Effective time Default Range Category Unit

Shutdown Effective 0 0 to 1 Basic setting -

When P00-01 is set to 4, 5 or 6, please refer to full version manual V1.1 "6.5 Mixed control mode".

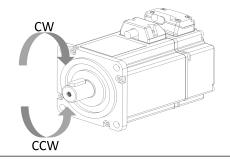
Valid

immediately

Set the forward rotation direction of the motor when looking at the motor axis.

setting

Setting value	Rotation direction	Remarks				
0	Take CW as forward direction	When looking at the motor axis, the rotation direction of the				
U	Take CW as fol ward direction	motor is clockwise				
1	Take CCW as forward direction	When looking at the motor axis, the rotation direction of the				
1	Take CCW as forward direction	motor is anticlockwise				





	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-05	Servo OFF shutdown	Shutdown	Effective	0	0 to 1	Basic setting	_
	method	setting	immediately	U	0 10 1	basic setting	_

Set the forward rotation direction of the motor when looking at the motor axis.

Setting value	Shutdown method	Remarks
0	Free shutdown. The motor shaft remains free	Please set reasonable shutdown according to the
1	Zero-speed shutdown. The motor shaft remains free	machinery and running requirement. Please refer to full version manual V1.1 "6.1.7 Servo shutdown".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-09	Braking resistor	Operation	Effective	0	0 to 3	Basic setting	
	setting	setting	immediately		0 10 3		-

Used to set the way in which braking energy is absorbed and released.

Setting value	Braking resistor setting	Remarks
0	Use built-in braking resistor	Please refer to full
1	Use external braking resistor and natural cooling	version manual V1.1
2	Use external braking resistor and forced air cooling (not settable)	"6.1.5 Braking resistor" to choose the right
3	No braking resistors are used, and all are absorbed by capacitance	braking method

Note: VD2-010SA1G and VD2F-010SA1P drives has no built-in braking resistor by default, so the default value of P00-09 is 3 (No braking resistors are used, and all are absorbed by capacitance).

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-10	External braking	Operation	Effective	50	0 to	Basic setting	
	resistor value	setting	immediately	50	65535	Dasic setting	22

Used to set the power of external braking resistor of servo drive.

When the maximum braking energy calculated value is greater than the maximum braking energy absorbed by capacitor, and the braking power calculated value is greater than the built-in braking resistor power, use external braking resistors are required.

If the value of P00-10 is too large, Er.25 (too large braking resistor value) or Er.22 (main power supply is over voltage) will occur.

When using an external braking resistor, the short wiring between C and D must be disconnected, and the external braking resistor should wiring between P+ and D.

Please refer to 2.1.2 The composition of the servo drives.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-11	External braking	Operation	Effective	100	0 to	Basic setting	W
	resistor power	setting	immediately	100	65535	basic setting	VV

Used to set resistor value of external braking resistor of servo drive. The power of external braking resistor P00-11 can not less than the braking resistance power calculation value.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-12	Position pulse	Operation	Power-on	0	0 to 5	Position	
	type selection	setting	again	U	0 10 5	mode	_

In position control mode, when position instruction source is pulse instruction (P01-06=0), input pulse pattern.

Setting value	Pulse pattern	Remarks
0	Direction + pulse(positive logic)	
1	CW/CCW	Diagon refer to Table C 15 in
2	AB phase orthogonal pulse (4 times frequency)	Please refer to Table 6-15 in 6.2.1 Position instruction
3	Direction + pulse (negative logic)	input setting in full version.
4	CW/CCW (negative logic)	input setting in run version.
5	AB phase orthogonal pulse (4 times frequency negative logic)	



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-13	Maximum position	Shutdown	Effective	300	1 to 500	Position	KHz
	pulse frequency	setting	immediately	300	1 10 300	mode	KIIZ

In position control mode, when position instruction source is pulse instruction (P01-06=0), input the maximum frequency of pulse. When the actual pulse input frequency is greater than the setting value of P00-13, A-86 would occurs (The input pulse frequency is too high).

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P00-14	Position pulse	Operation	Power-on	2	0 to 9	Position	-	
	anti-interference level	setting	again	2	0 10 9	mode		

In position control mode, filter the input pulse. The larger the P00-14 setting value, the greater the filter depth.

Setting value	Filtering time	Setting value	Filtering time
0	No filtering 5		2.048us
1	1 128ns 6		4.096 us
2	2 256ns 7		8.192 us
3	3 512ns		16.384 us
4	4 1.024us		VD2: 32.768us; VD2F: 25.5us

P00-16 Number of instruction pulses Shutdown Effective 10000 0 to Position		Parameter name	Setting method	Effective time	Default	Range	Category	Unit
per turn of motor setting immediately 131072 mode	P00-16	instruction pulses	Shutdown setting	Effective immediately	10000	0 to 131072	Position mode	w

Used to set the number of instruction pulses required for per turn of motor

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-17	Electronic gear 1	Operation	Effective	1	1 to	Position	w
	numerator	setting	immediately	1	4294967294	mode	VV

Used to set the numerator of the first group electronic gear for position instruction. This function code is only valid when P00-16=0.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-18	Electronic gear 1	Operation	Effective	1	1 to	Position	W
	denominator	setting immediately	1	4294967294	4967294 mode		

Used to set the numerator of the first group electronic gear for position instruction. This function code is only valid when P00-16=0.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P00-19	Electronic gear 2	Operation	Effective	1	1 to	Position	W	
	numerator	setting	ng immediately	1	4294967294	mode	VV	

Used to set the numerator of the second group electronic gear for position instruction. This function code is only valid when P00-16=0.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P00-20	Electronic gear 2	Operation	Effective	1	1 to	Position	W	
	denominator	setting	immediately	T	4294967294	mode	VV	

Used to set the numerator of the second group electronic gear for position instruction. This function code is only valid when P00-16=0.

P00-21	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
\$	Pulse frequency division output direction	Operation setting	Power-on again	2	0 to 1	Position mode	-		
Used to set the pulse frequency division output direction									

Setting value	Output direction
0	CW is forward direction (A is ahead of B)
1	CCW is forward direction (A is ahead of B)

[&]quot;☆" indicates that the VD2F servo drive does not support this function code.



P00-22	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
.A.	The number of output	Operation	Power-on	2500	0 to	Position	
×	pulses per turn of motor	setting	again	2500	2500	mode	-

Note: Each rotation of the motor, phase A and phase B can each output up to 2500 pulses, and the control device receiver device needs to support 4 times frequency analysis to get 10000 pulses.

"☆" indicates that the VD2F servo drive does not support this function code.

P00-23	Parameter name	Setting mo	ethod	Effective time	Default	Range	Category	Unit				
☆	Z pulse output OZ	Operati	on	Power-on	2	0 to 1	Position mode					
	polarity	settin	g	again		0 10 1	Position mode	-				
Used to s	Used to set the level logic of Z pulse											
	S	etting value		Output direction								
		0	Active high le		evel							
		1		Active low le	evel							

P00-25	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PUU-25	Position	Shutdown	Effective	60000	0 to	Position	Equivalent
	deviation limit	setting	immediately	80000	2147483646	mode	pulse unit

Used to set position deviation limit value. When the actual deviation of motor exceeds the setting value of this function code, Er.36 would occurs (position deviation is too large).

When the function code is set to 0, positional bias is ignored.

P00-27	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
JA.	Pulse output frequency	Operation	Power-on	1	1 to	Position	
×	division numerator	setting	again	1	2500	mode	-

Orthogonal coded output (numerator/denominator format). Used to set pulse output frequency division numerator. (When P00-22=0, and the pulse output frequency division numerator value is less than the pulse output frequency division denominator value, this function code is valid)

P00-28	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
A	Pulse output frequency	Operation	Power-on	1	1 to	Position	
☆	division denominator	setting	again	1	2500	mode	-

Orthogonal coded output (numerator/denominator format). Used to set pulse output frequency division denominator. (When P00-22=0, and the pulse output frequency division denominator value is greater than the pulse output frequency division numerator value, this function code is valid)

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P00-29	The number of equivalent position units in one circle	Shutdown setting	Effective immediately	10000	0 to 131072	Position mode	-		
The equ	The equivalent position unit of one circle of the motor								

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P00-30	Shielded multi-turn absolute encoder battery failure	Operation setting	Power-on again	0	0 to 1	Basic setting	-

Used to set multi-turn absolute encoder battery fault alarm setting function. (VD2-SA V1.13 firmware added)

Setting value	Function	Remarks
0	Shield	Detect multi-turn absolute encoder battery under voltage and battery
U	Silieiu	low-voltage fault. Please refer to full version manual V1.1 "6.6 Absolute system".
1	Not shield	Shield multi-turn absolute encoder battery under voltage and battery
1	Not snield	low-voltage fault. This would cause mechanical failure, please use with caution.

[&]quot;☆" indicates that the VD2F servo drive does not support this function code.



Group P01 Control parameters

	Parar	neter name	Setting method	Effective time	Default	Range	Category	Unit	
P01-01	Speed	dinstruction	Shutdown settin	g Power-on again	0	0 to 1	Speed mode	_	
	:	source	Shataown Setting	5 TOWER OIL again	U	0 10 1	Speca mode		
Select sp	Select speed instruction source								
Setting	Setting value Function		Remarks						
		Internal co	and instruction	Please refer to full version manual V1.1 "6.3.1 Speed					
0		Internal speed instruction		instruction input setting".					
1*	L* AI_1 analog input External speed instruction. Please refer to 4 Wiring.								
"*" indic	ates tha	at the VD2F s	ervo drive does no	t support this functio	n code.				

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-02	Internal speed	Operation	Effective	0	-3000 to 3000	Speed	rn m
	instruction 0	setting	immediately	U	-5000 to 5000*	mode	rpm

Used to set speed value of internal speed instruction when servo drive is in speed control mode, and only valid when P01-01=0. "*" indicates the setting range of VD2F servo drive.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P01-03	Acceleration time	Operation setting	Effective immediately	50	0 to 65535	Speed mode	ms		
The time	The time that the speed instruction accelerates from 0 to 1000 rpm								

The time that the speed instruction accelerates from 0 to 1000 rpm.

Please refer to full version manual V1.1 "6.3.2 Acceleration and deceleration time setting".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P01-04	deceleration time	Operation setting	Effective immediately	50	0 to 65535	Speed mode	ms			
The Attenda	The time that the aread in twenting declarates from 0 to 1000 years									

The time that the speed instruction decelerates from 0 to 1000 rpm.

Please refer to full version manual V1.1 "6.3.2 Acceleration and deceleration time setting".

P01-06	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
	Position	Operation setting	Effective	0	0 to 1	-	_
	instruction source	Operation setting	immediately				_

Used to select position instruction source when servo drive is in position control mode.

Setting value	Instruction source	Remarks
0	Pulse instruction	Pulse instructions are generated by PLC or other pulse generator and input to servo drive via the hardware terminals. Please refer to full
U		version manual V1.1 "6.2.1 Position instruction input setting".
	Internal nocition	The internal multi-segment position instruction is triggered by DI
1	Internal position instruction	function 20 (internal multi-segment position enable signal). Please refer
		to full version manual V1.1 "internal multi-segment position function"
"*" indicator th	at the VD2E conve drive	o doos not support this function codo

"*" indicates that the VD2F servo drive does not support this function code.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-07	Torque	Shutdown setting	Effective	0	0 to 1	Torque mode	1
	instruction source	on a carrier	immediately		0 10 1	101 que mode	

Used to select torque instruction source when servo drive is in torque control mode.

Setting value	ralue Instruction source Remarks					
0	Internal torque instruction	Please refer to full version manual V1.1 "6.4.1 Torque				
0		instruction input setting".				
1*	AI_1 analog input	External speed instruction. Please refer to 4 Wiring.				
"*" indicates that the VD2F servo drive does not support this instruction source.						



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-08	Torque instruction	Operation	Effective	0	-3000 to		0.1%
	keyboard setting value	setting	immediately		3000		0.1%

Used to set the required torque instruction value when P01-07 is set to 0 (internal torque instruction).

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-09	Speed limit source	Shutdown	Effective	0	0 to 1	Torque mode	
	in torque mode	setting	immediately	0	0 10 1	Torque mode	-

Used to set speed limit source when servo drive is in torque control mode.

Setting value	Remarks					
0	Internal instruction	Internal speed limit. Please refer to full version manual V1.1				
	internal instruction	"6.4.4 Speed limit in torque mode".				
1*	External (AI_2 analog input)	External speed instruction. Please refer to 4 Wiring.				
"*" indicates that the VD2F servo drive does not support this instruction source.						

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-10	Maximum speed	Operation	Effective	3600	0 to 5000	Protection and	rpm
	threshold	setting	immediately	3000		restriction	

Used to set the maximum speed limit value. If the actual speed of motor exceeds this value, Er.32 would occur (Exceed the maximum speed of motor).

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-11	Warning speed	Operation	Effective	3300	0 to 5000	Protection and	rnm
	threshold	setting	immediately	3300	0 10 3000	restriction	rpm

Used to set the limit value of warning speed. If the actual speed of motor exceeds this value, A-81 would occur (Exceed the maximum speed of motor).

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-12	Forward speed	Operation	Effective	3000	0 to 5000	Protection and	rpm
	threshold	setting	immediately	3000	0 10 5000	restriction	
Used to	set the limit value of						

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-13	Reverse speed	Operation	Effective	3000	0 to 5000	Protection and	rpm
	threshold	setting	immediately	3000		restriction	
Used to set the limit value of reverse speed							

	Para	meter name	Setting metho	d	Effective time	Default	Range	Category	Unit
P01-14	Torque limit source		Shutdown		Effective	0	0 to 1	Protection and	
	Torqu	e iiiiiit source	setting		immediately		0 10 1	restriction	-
Used to s	select to	orque instructio	n source when s	serv	vo drive is in torq	ue control	mode.		
Setting	Setting value Instruction		on source			Re	marks		
0			estruction	In	ternal torque lim	it. Please r	efer to full	version manual V	1.1

Setting value	instruction source	Kemarks
0	Internal instruction	Internal torque limit. Please refer to full version manual V1.1
U	internal mstruction	"6.4.3 Torque instruction limit".
1	External (AI_2 analog input)	External torque instruction. Please refer to 4 Wiring
-		

		Parameter name	Setting method	Effective time	Default	Range	Category	Unit
	P01-15	Forward torque limit	Operation setting	Effective immediately	3000	0 to 3000	Protection and restriction	0.1%
Used to set the limit value of forward speed								

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-16	Reverse	Operation	Effective	3000	0 to 3000	Protection and	0.1%
	torque limit	orque limit setting immediately		3000	0 10 3000	restriction	0.1%

When P01-14 is set to 0 (internal), the setting value of this function code is reverse torque limit value. If the value of P01-15 or P01-16 is set too small, the servo motor may be insufficient torque phenomenon when



performing acceleration and deceleration movements. Please refer to full version manual V1.1 "6.4.3 Torque instruction limit".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-17	Forward speed limit	Operation	Effective	3000	0 to	Protection and	rpm
	in torque mode	setting	immediately	3000	5000	restriction	

Used to set forward speed limit value in torque control mode. Please refer to full version manual V1.1 "6.4.4 Speed limit in torque mode".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-18	Reverse speed limit	Operation	Effective	3000	0 to	Protection and	
	in torque mode	setting	immediately	3000	5000	restriction	rpm

Used to set reverse speed limit value in torque control mode. Please refer to full version manual V1.1 "6.4.4 Speed limit in torque mode".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-19	Torque saturation	Operation	Effective	1000	0 to	Protection and	ms
	timeout	setting	immediately	1000	65535	restriction	ms

When torque is limited by the setting value of P01-15 or P01-16, and exceeds the setting time, drive would report fault "torque saturation abnormal".

Note: When this function code is set to 0, saturation timeout fault detection would not be performed, and this fault is ignored.

		Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PO	1-21	Zero-speed clamp	Operation	Effective	0	0 +0 2	Spood mode	
	function selection	setting	immediately	0	0 to 3	Speed mode	-	

Please refer to full version manual V1.1 "6.3.4 Zero-speed clamp function".

Setting value	Function
0	Force speed to 0
1	Force speed to 0, and keep position locked when the actual speed is less than P01-22
2	When the actual speed is less than P01-22, force speed to 0, and keep position locked
3	Invalid. Ignore zero-speed clamp input

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-22	Zero speed clamp	Operation	Effective	20	0 to 1000	Chood mode	rnm
	speed threshold	setting	immediately	20	0 10 1000	Speed mode	rpm

Used to set the speed threshold of zero-speed clamp function Please refer to full version manual V1.1 "6.3.4 Zero-speed clamp function".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-23	Internal speed	Operation	Effective	0	-3000 to 3000	Speed	rnm
	Instruction 1	setting	immediately	U	-5000 to 5000*	mode	rpm

Used to set the speed value of internal speed instruction 2. To use internal speed instruction 1 to 7, you need to set 3 DI terminals as DI function 13 (INSPD1, internal speed instruction 1) to (INSPD3, internal speed instruction 3). The switch of the internal speed instruction section is realized by controlling the DI terminal logic of the servo control device. The running instruction segment number is 3-bit binary number. The corresponding relationships between internal speed instruction 1 to 3 and running segment number are as below.

INSPD3	INSPD2	INSPD1	Internal speed instruction segment number					
0	0	0	0					
0	0	1	1					
0	1	0	2					
1	1	1	7					

Please refer to full version manual V1.1 "6.3.1 Speed instruction input setting".

"*" indicates the setting range of VD2F servo drive.



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-24	Internal speed	Operation	Effective	0	-3000 to 3000	Speed	rnm
	Instruction 2	setting	immediately	U	-5000 to 5000*	mode	rpm
Used to s	set the speed value o	of internal speed in	struction 2. "*"	indicates t	he setting range of	f VD2F servo	drive.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P01-25	Internal speed	Operation	Effective	0	-3000 to 3000	Speed	rnm			
	Instruction 3	setting	immediately		-5000 to 5000*	mode	rpm			
Used to s	Used to set the speed value of internal speed instruction 3. "*" indicates the setting range of VD2F servo drive.									
	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P01-26	Parameter name Internal speed	Setting method Operation	Effective time Effective		Range -3000 to 3000	Category Speed				
P01-26				Default 0			Unit rpm			

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P01-27	Internal speed	Operation	Effective	0	-3000 to 3000	Speed	***		
	Instruction 5	setting	immediately	U	-5000 to 5000*	mode	rpm		
Used to s	Used to set the speed value of internal speed instruction 5. "*" indicates the setting range of VD2F servo drive.								

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P01-28	Internal speed	Operation	Effective	0	-3000 to 3000	Speed	rnm		
	Instruction 6	setting	immediately	0	-5000 to 5000*	mode	rpm		
Used to s	Used to set the speed value of internal speed instruction 6. "*" indicates the setting range of VD2F servo drive.								

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P01-29	Internal speed	Operation	Effective	0	-3000 to 3000	Speed	rnm			
	Instruction 7	setting	immediately	U	-5000 to 5000*	mode	rpm			
Used to	Used to set the speed value of internal speed instruction 7. "*" indicates the setting range of VD2F servo drive.									

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-30	Delay from brake output ON to instruction reception	Operation setting	Effective immediately	250	0 to 500	-	rpm

Set the delay time from the brake (BRK-OFF) output is ON to the servo drive allows to start receiving input instructions. When the brake output (BRK-OFF) is not allocated, this function code has no effect. Please refer to full version manual V1.1 "6.1.8 Brake device".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-31	Stationary state. delay from the brake output is OFF to the motor is not energized	Operation setting	Effective immediately	150	1 to 1000	-	rpm

When the motor is in a static state, set the delay time from the brake (BRK-OFF) output is OFF to the servo drive is in the non-powered state. When the brake output (BRK-OFF) is not allocated, this function code has no effect. Please refer to full version manual V1.1 "6.1.8 Brake device".

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-32	Rotation state: when the brake output is OFF, the speed threshold	Operation setting	Effective immediately	30	0 to 3000	-	rpm

The motor is rotating, the motor speed threshold when the brake (BRK-OFF) is allowed to output OFF. When the brake output (BRK-OFF) is not allocated, this function code has no effect. Please refer to full version manual V1.1 "6.1.8 Brake device".



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P01-33	Rotation status, delay from servo enable OFF to brake output OFF	Operation setting	500		1 to 1000	-	rpm

The motor is rotating, the delay time from the brake (BRK-OFF) output OFF is allowed to the servo enable (S-ON) OFF. When the brake output (BRK-OFF) is not allocated, this function code has no effect. Please refer to full version manual V1.1 "6.1.8 Brake device".

Group P02 Gain adjustment

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P02-01	1st position loop gain	Operation setting	Effective immediately	400	0 to 6200	Gain control	0.1Hz			
Set the proportional gain of the 1st position loop to determine the responsiveness of position control system.										

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P02-02	1st speed loop gain	Operation setting	Effective immediately	65	0 to 35000	Gain control	0.1Hz			
Set the proportional gain of the 1st speed loop to determine the responsiveness of speed loop.										

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P02-03	1st speed loop integral time constant	Operation setting	Effective immediately	1000	100 to 65535	Gain control	0.1ms
Set the 1	st speed loop integral con	stant. The smaller	the set value, the	stronger th	ne integral e	effect.	

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P02-04	2nd position loop gain	Operation setting	Effective immediately	35	0 to 6200	Gain control	0.1Hz			
Set the p	Set the proportional gain of the 2nd position loop to determine the responsiveness of position control system.									

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit				
P02-05	2nd speed loop gain	Operation setting	Effective immediately	65	0 to 35000	Gain control	0.1Hz				
Set the p	Set the proportional gain of the 2nd speed loop to determine the responsiveness of speed loop.										

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P02-06	2nd speed loop integral time constant	Operation setting	Effective immediately	1000	100 to 65535	Gain control	0.1ms			
Set the 2	Set the 2nd speed loop integral constant. The smaller the set value, the stronger the integral effect.									

	Parameter name	Setting	g method	Effective time	Default	Range	Category	Unit
P02-07	2nd gain switching	g Ope	eration	Effective	0	0 to 3	Gain	
	mode	se	etting	immediately	U	0 10 3	control	-
Used to s	et the 2nd gain switc	ching mode.	ng mode.					
	Se	tting value		Definition				
		0	Switch by	DI terminal				

Setting value	Definition		
0	Switch by DI terminal		
1	Speed instruction change rate is too large		
2	Large position deviation		
3	None		

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P02-09	Speed feedforward gain	Operation setting	Effective immediately	0	0 to 1000	Gain control	0.1%	
Set speed feedforward gain								



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P02-10	Speed feedforward filtering time constant	Operation setting	Effective immediately	50	0 to 10000	Gain control	0.1ms			
Set the time constant of one delay filter related to the speed feedforward input.										
	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P02-11	Torque feedforward	Operation	Effective	0	0 to	Gain	0.1%			
	gain	setting	immediately	U	2000	control	0.1%			
Set torqu	e feedforward gain									

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P02-12	Torque feedforward filter time constant	Operation setting	Effective immediately	50	0 to 10000	Gain control	0.1ms			
Set the ti	Set the time constant of one delay filter related to the torque feedforward input.									

Group P03 Self-adjusting parameters

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P03-01	Load inertia ratio	Operation setting	Effective immediately	300*	100 to 10000	Automatic parameter tuning	0.01			
	Set load inertia ratio: 0.00 to 100.00 times. "*" indicates that the factory defaults for different models may differ.									

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P03-02	Load rigidity grade selection	Operation setting	Effective immediately	14*	0 to 31	Automatic parameter tuning	-

Set the rigidity of servo system. The higher the value, the faster the response, but too high rigidity will cause vibration. "*" indicates that the factory defaults for different models may differ.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P03-03	Self-adjusting mode selection	Operation setting	Effective immediately	0	0 to 2	Automatic parameter tuning	-

Different gain adjustment modes could be set, and the relevant gain parameters could be set manually or automatically set according to the rigidity level table.

Setting value	Instruction source	Remarks
0	Self-adjusting mode.	Position loop gain, speed loop gain, speed loop integral time constant, torque filter parameter settings are automatically adjusted according to the rigidity grade setting.
1	Manual setting	You need to manually set the position loop gain, speed loop gain, speed loop integral time constant, torque filter parameter
2	Online automatic self-adjusting mode	Not implemented yet

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit				
P03-0	Online inertia recognition sensitivity	Operation setting	Effective immediately	0	0 to 2	Automatic parameter tuning	-				
Not in	Not implemented yet.										



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P03-05	Number of circles Inertia recognition	Shutdown setting	Effective immediately	2	1 to 20	Automatic parameter tuning	Circle			
Offline lo	Offline load inertia recognition process, motor rotation number setting									

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P03-06	Inertia recognition maximum speed	Shutdown setting	Effective immediately	1000	300 to 2000	Automatic parameter tuning	rpm

Set the allowable maximum motor speed instruction in offline inertia recognition mode. The faster the speed during inertia recognition, the more accurate the recognition result will be. You are advised to keep the default value.

	Parameter r	name	Setti	ng method	Effective time	Default	Range	Category	Unit
P03-07	Parameter reco	agnition	CI	autdown	Effective			Automatic	
PU3-U7	rotation dire	•		Shutdown setting	immediately	0	0 to 2	parameter	-
	Totation unection		Setting		iiiiiiediately			tuning	
Set parar	Set parameter recognition rotation direction								
		Setting v	value		Rotation direction	on			
		0		Forward an	d reverse recipro	cating rotat	ion		
			Forward on	Forward one-way rotation					

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P03-08	Parameter recognition waiting time	Shutdown setting	Effective immediately	1000	300 to 10000	Automatic parameter tuning	ms			
During o	During offline inertia recognition, the time interval between two consecutive speed instructions									

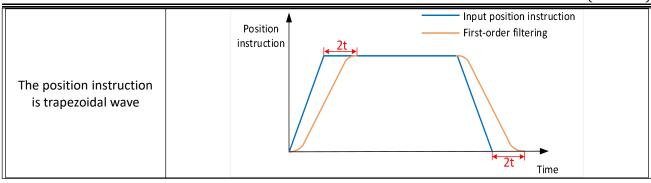
Reverse one-way rotation

Group P04 Vibration suppression

	Parameter name	Setting meth	od	Effective time	Default	Range	Category	Unit
P04-01	Pulse instruction	Shutdown		Effective	0	0 to 1	Position	
	filtering method	setting		immediately	U	0 10 1	mode	-
	Setting value Filtering method		d					
		0	Firs	st-order low-pass	filter			
		1	Ave	erage filtering				

	Parameter nan	ne	Setting method	Effective time	Default	Range	Category	Unit
P04-02	Position instruct first-order low-p filtering time cons	ass	Shutdown setting	Effective immediately	0	0 to 1000	Position mode	ms
Used to	set position instruct	ions fir	st-order low-pass fi	Itering time cons	tant.			
11 .	sition instructions tangular waves		Position instruction	2t		Input position First-order filt		





	Parameter nam	ie S	Setting method	Effective time	Default	Range	Category	Unit	
P04-03	Position instruction average filtering time constant		Shutdown setting	Effective immediately	0	0 to 128	Position mode	ms	
Used to s	et average filtering	time con	stant.						
			Position instruction	t	Input position instruction Average filtering Time				
The pos	ition instruction		Position instruction	t		put position inst verage filtering	ruction		

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P04-04	Torque filtering	Operation	Effective	50	10 to 2500	Vibration	0.01ms
	time constant	setting	immediately	30	10 (0 2500	suppression	0.011115

Used to set torque filtering time constant. When the function code P03-03(Self-adjustment mode selection) is set to 0, the parameter is automatically set by servo. Please refer to full version manual 6.4.2 Torque instruction filtering.

		Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PO	4-05	1st notch filter	Operation	Effective	300	250 to	Vibration	Hz
		frequency	setting	immediately	300	5000	suppression	ПZ

Set the center frequency of the 1st notch filter.

is trapezoidal wave

When the function code is set to 5000, the function of the notch filter is invalid.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P04-06	1st notch filter	Operation	Effective	100	0 to100	Vibration	
	depth	setting	immediately	100	0 (0100	suppression	-

Set the notch filter depth grade (the ratio between input and output at the center frequency of the notch filter) The larger the set value of this function code is, the smaller the notch filter depth is, and the weaker the suppression effect of mechanical vibration is. However, setting too large could cause system instability. Please refer to full version manual 7.4.2 Notch filter.

Time



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P04-07	1st notch filter	Operation	Effective	1	0 to 12	Vibration	
	width	setting	immediately	4	0 10 12	suppression	-

Set the notch filter width grade (the ratio between input and output at the center frequency of the notch filter)

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P04-08	2nd notch filter	Operation	Effective	500	250 to	Vibration	Hz			
	frequency	setting	immediately	300	5000	suppression	ПΖ			
Sot tho	Sat the center frequency of the 1st notch filter									

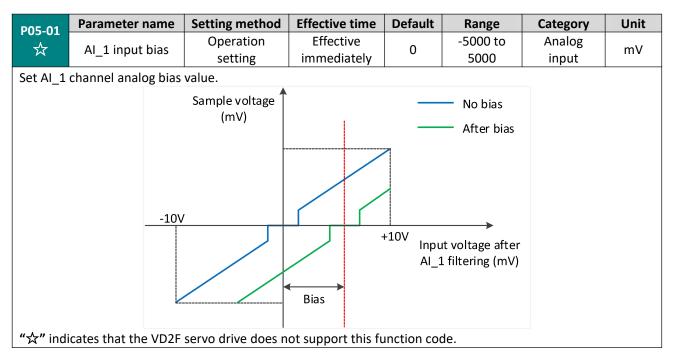
Set the center frequency of the 1st notch filter.

When the function code is set to 5000, the function of the notch filter is invalid.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P04-09	2nd notch filter	Operation	Effective	100	0 to 100	Vibration	
	depth	setting	immediately	100	0 10 100	suppression	-

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P04-10	2nd notch filter	Operation	Effective	4	0 to 12	Vibration	
	width	setting	immediately	4	0 (0 12	suppression	-

Group P05 Signal input and output

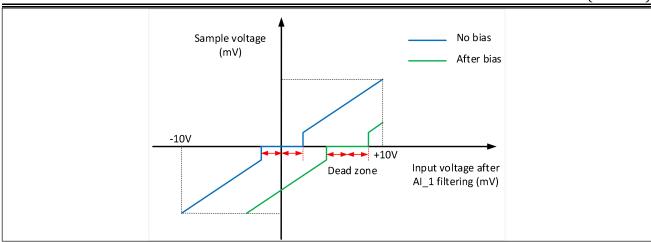


P05-02	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
☆	AI_1 input filter	Operation	Effective	200	0 to 60000	Analog	0.01ms	
×	time constant	setting	immediately	200	0 10 80000	input	0.011115	
Set Al_1 channel input first-order low-pass filter time constant								

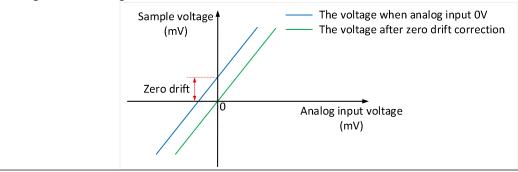
P05-03	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	AI_1 dead zone	Operation setting	Effective immediately	20	0 to 1000	Analog input	mV

Set Al_1 channel analog quantity dead zone value. "Dead zone" is the input voltage interval when the sample voltage is 0.





P05-04	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	Al 1 zero drift	Operation	Effective	0 -500 t	-500 to 500	Analog	mV
M	AI_I Zelo ullit	setting	immediately	O	-500 to 500	input	IIIV
	ero drift of AI_1 chai nannel voltage is 0.	nnel analog. "zero	drift" is the samp	le voltage	co voltage rela	ative to GND w	hen
	Samp	le voltage ↑		5	alog input 0V		



P05-05	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	AI_2 input bias	Operation	Effective	0	-5000 to	Analog	mV
M		setting	immediately		5000	input	

P05-06	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	AI_2 input filter	Operation	Effective	200	0 to 60000	Analog	0.01ms
×	time constant	setting	immediately	200		input	

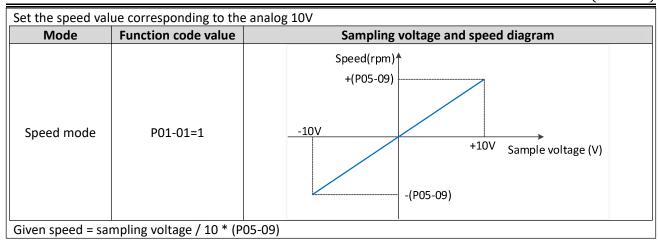
P05-07	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆		Operation	Effective	20	0 to 500	Analog	mV
A	AI_2 dead zone	setting	immediately	20	0 10 300	input	111 V

P05-08	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	AI_2 zero drift	Operation setting	Effective immediately	0	-500 to 500	Analog input	mV

"☆" indicates that the VD2F servo drive does not support this function code.

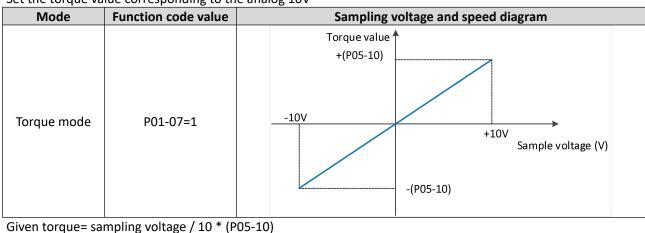
	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P05-09 ☆	Analog 10V corresponds to the speed value	Shutdown setting	Effective immediately	3000	1000 to 4500	Analog input	rpm





	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P05-10 ☆	Analog 10V corresponds to the torque value	Shutdown setting	Effective immediately	1000	0 to 3000	Analog input	0.1%

Set the torque value corresponding to the analog 10V



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
DOF 11	Positioning	Operation	Fffo ativo			Desition	
P05-11	completion, positioning approach	Operation setting	Effective immediately	0	0 to 3	Position mode	-
	condition setting						

Set the conditions of setting positioning completion and positioning approach. When servo is in position mode, and the absolute value of the positional deviation is within the range of P05-12 (positioning complete threshold) or P05-13 (positioning approach threshold), servo would output the positioning complete signal and positioning approach signal.

Set value	Output condition
0	It is valid when the absolute value of the position deviation is smaller than or close to the
	threshold
1	It is valid when the absolute value of the position deviation is smaller than or close to the
1	threshold and input position instruction is 0
2	It is valid when the absolute value of the position deviation is smaller than or close to the
2	threshold and input position instruction filtering value is 0
	It is valid when the absolute value of the position deviation is smaller than or close to the
3	threshold, input position instruction filtering value is 0, and continuous positioning detects
	window time

[&]quot;☆" indicates that the VD2F servo drive does not support this function code.



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P05-12	Positioning completion threshold	Operation setting	Effective immediately	800	1 to 65535	Position mode	Equivalent pulse unit			
Set the t	Set the threshold of absolute value of position deviation when servo drive output positioning completion signal									

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P05-13	Positioning approach threshold	Operation setting	Effective immediately	5000	1 to 65535	Position mode	Equivalent pulse unit			
Set the threshold of absolute value of position deviation when servo drive output positioning approach signal										

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit				
P05-14	Position detection window time	Operation setting	Effective immediately	10	0 to 20000	Position mode	ms				
Set the d	Set the detection window time for positioning completion										

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit			
P05-15	Positioning signal holding time	Operation setting	Effective immediately	100	0 to 20000	Position mode	ms			
Set the ti	Set the time for the signal to remain in effect after positioning when P05-11=3 (Positioning completion and									

Set the time for the signal to remain in effect after positioning when P05-11=3 (Positioning completion and positioning approach condition setting)

I		Parameter name	Setting method	Effective time	Default	Range	Category	Unit
	P05-16	Rotation detection	Operation	Effective	20	0 to 1000	Speed	rnm
		speed threshold	setting	immediately	20	0 10 1000	mode	rpm

Set the speed threshold that triggers the motor rotation signal. The motor rotation signal (TGON) is used to confirm that the motor has rotated. Please refer to full version manual 6.3.5 Speed-related DO output function.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P05-17	Speed consistent	Operation	Effective	10	0 +0 100	Speed	rpm
	signal threshold	setting	immediately	10	0 to 100	mode	

Set the speed threshold that triggers the motor speed consistent signal. The motor outputs speed consistent signal (V-COIN) indicates that the actual speed has reached the speed instruction setting value. Please refer to full version manual 6.3.5 Speed-related DO output function.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P05-18	Speed approach	Operation	Effective	100	10 to 6000	Speed	rpm
	signal threshold	setting	immediately	100		mode	

Set the speed threshold that triggers the motor speed approach signal. The motor outputs speed approach signal (V-NEAR) indicates that the actual speed has reached the expected value. Please refer to full version manual 6.3.5 Speed-related DO output function.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P05-19	Zero speed output	Operation	Effective	10	0 to 6000	Speed	rpm
	signal threshold	setting	immediately	10		mode	

Set the speed threshold that triggers the motor zero speed output signal. The motor outputs zero speed signal (ZSP) indicates that the actual speed is almost stationary. Please refer to full version manual 6.3.5 Speed-related DO output function.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P05-20	Torque arrival	Operation	Effective	100	0 to 300	Torque	%		
	threshold	setting	immediately			mode	/		
Please refer to full version manual 6.4.5 Torque-related DO output functions.									



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P05-21	Torque arrival	Operation	Effective	10	0 to 20	Torque	%		
	hysteresis value	setting	immediately	10	0 10 20	mode	/0		
Please refer to full version manual 6.4.5 Torque-related DO output functions									

Group P06 DI/D0 configuration

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-02	DI_1 channel function	Operation setting	Power on again	01	0 to 32	DI/DO	1

Set DI functions corresponding to hardware DI 1. The related functions are as below.

Set value	DI channel function	Set value	DI channel function
0	Off (not used)	13	INSPD1 (Internal speed instruction selection 1)
1	S-ON (Servo enable)	14	INSPD2 (Internal speed instruction selection 2)
2	A-CLR (Fault and warning clear)	15	INSPD3 (Internal speed instruction selection 3)
3	POT (Forward drive prohibition)	16	J-SEL Inertia ratio switch (not implemented yet)
4	NOT (Reverse drive prohibition)	17	MixModeSel Mix mode selection
5	ZCLAMP (Zero-speed clamp)	18	None
6	CL (Clear deviation counter)	19	None
7	C-SIGN (instruction is reversed)	20	ENINPOS (Internal multi-segment enable signal)
8	E-STOP (Emergency stop)	21	INPOS1 (Internal multi-segment position selection 1)
9	GEAR-SEL (Electronic Gear Switch 1)	22	INPOS2 (Internal multi-segment position selection 2)
10	GAIN-SEL (Gain switch)	23	INPOS3 (Internal multi-segment position selection 3)
11	INH (Instruction pulse prohibited input)	24	INPOS4 (Internal multi-segment position selection 4)
12	VSSEL (Vibration control switching input)	-	-

If P06-02 is set to a value other than that in the table above, the DI port function is not required.

The same DI channel function could not be allocated to multiple DI ports, otherwise servo drive will occur A-89 (DI port configuration duplication)

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-03	DI_1 channel logic selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-

DI port input logic validity function selection

Set value	Content	Illustration
0	Normally open input. Active low level (switch on)	High level — More than 3ms Low level Valid
1	Normally closed input. Active high level (switch off)	Valid High level More than 3ms Low level



Parameter name	Setting metho	d	Effective time	Default	Range	Category	Unit		
DI_1 input	Operation setti	ing	Effective immediately	0	0 to 1	DI/DO	-		
source selection	•	8							
Select the enabled DI_1 port type									
	Set value Content								
	0 Hardware DI_1 input terminal		nal						
	1	Virt	tual VDI_1 input termina	al					
	DI_1 input source selection	DI_1 input source selection ne enabled DI_1 port type Set value	DI_1 input source selection ne enabled DI_1 port type Set value 0 Hai	DI_1 input source selection Departion setting Di_1 input Di_1 inp	DI_1 input source selection Operation setting Effective immediately 0 ne enabled DI_1 port type Set value Content Operation setting Effective immediately 0	DI_1 input source selection Operation setting Effective immediately 0 0 to 1 ne enabled DI_1 port type Set value Content O Hardware DI_1 input terminal	DI_1 input source selection Operation setting Effective immediately 0 0 to 1 DI/DO ne enabled DI_1 port type Set value Content O Hardware DI_1 input terminal		

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-05	DI_2 channel function	Operation setting	Power on again	2	0 to 32	DI/DO	-

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-06	DI_2 channel logic selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-07	DI_2 input source selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-08	DI_3 channel function	Operation setting	Power on again	3	0 to 32	DI/DO	_

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-09	DI_3 channel logic selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-10	DI_3 input	Operation setting	Effective immediately	0	0 to 1	DI/DO	
	source selection	Operation setting	Lifective infilitediately	O	0 10 1	DIVOO	

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-11	DI_4 channel	Operation setting	Power on again	4	0 to 32	DI/DO	_
	function selection	operation setting	Tower on again		0 10 02	0.,00	

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-12	DI_4 channel logic selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-13	DI_4 input	Operation setting	Effective immediately	0	0 to 1	DI/DO	_
	source selection	operation setting	Zirective illilitediately	3	0 10 1	01,00	

DOC 14	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-14 ☆	DI_5 channel function selection	Operation setting	Power on again	7	0 to 32	DI/DO	-

DOC 15	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P06-15 ☆	DI_5 channel	Operation setting	Effective immediately	0	0 to 1	DI/DO	
A	logic selection	Operation setting	Effective infillediately	U	0 10 1	טטקוט	-

[&]quot;☆" indicates that the VD2F servo drive does not support this function code.

Parameter name

DI_8 input

source selection

P06-25

Setting method

Operation setting

			Setting method Effective time Default Range Category Unit Operation setting Power on again 11 0 to 32 DI/DO - tting method Effective time Default Range Category Unit eration setting Effective time Default Range Category Unit eration setting Effective immediately 0 0 to 1 DI/DO - tting method Effective immediately Default Range Category Unit eration setting Effective time Default Range Category Unit				
P06-16	Parameter name	Setting method	Effective time	Default	Range	Category	Uni
☆	DI_5 input source selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-
					_		
P06-17	Parameter name	Setting method	d Effective time	Default	Range	Category	Un
☆	DI_6 channel function selection	Operation settir	ng Power on again	11	0 to 32	DI/DO	-
	Parameter name	Setting method	Effective time	Default	Range	Category	Un
P06-18 ☆	DI_6 channel logic selection	Operation setting					
	Parameter name	Setting method	Effective time	Default	Range	Category	Un
P06-19 ☆	DI_6 input source selection	Operation setting					-
	Doromotor name	Satting matho	d Effective time	Default	Dange	Catagoni	11.
P 06-20 ☆	Parameter name DI_7 channel function selection	Operation setting					
	_				_	_	
P06-21	Parameter name	Setting method	Effective time	Default	Range	Category	Ur
☆	DI_7 channel logic selection	Operation setting	Power on again	0	0 to 1	DI/DO	-
	Parameter name	Setting method	Effective time	Default	Range	Category	Ur
206-22 ☆	DI_7 input	Operation setting	Effective immediately	0	0 to 1	DI/DO	-
						,	
P06-23	Parameter name	Setting method	Effective time	Default	Range	Category	Ur
	DI_8 channel function selection	Operation settir	ng Power on again	2	0 to 32	DI/DO	-
	Parameter name	Setting method	Effective time	Default	Range	Category	Ur
P06-24 ☆	DI_8 channel logic selection	Operation setting	Power on again	0	0 to 1	DI/DO	-

Effective time

Effective immediately

Default

0

Range

0 to 1

Category

DI/DO

Unit

COM_VDO1 (communication VDO4 output)



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P06-33

DO_4 channel

logic selection

Weedit VB2 of Detrees Det VO Bit West Mannada (Brice VI.)									
	Parameter name	Setting method	Effective t	ime	Default	Range	Category	Unit	
P06-26	DO_1 channel	Operation	Effectiv	е	132	128 to 142	DI/DO		
	function selection	setting	immediat	tely	132	128 (0 142	DIVDO	_	
Set DO functions corresponding to hardware DO_1			1. The related	l functi	ons are as	below.			
Set valu	e DO chanr	nel function	Set value		DC	channel fund	tion		
128	Close (not used)	139		T-L	IMIT (Torque l	imit)		
129	RDY (Se	rvo ready)	140		140-V-	-LIMIT (speed	ed limited)		
130	ALM (fa	ult signal)	141		141-BRI	K-OFF (brake o	output)🐿		
131	WARN (wa	rning signal)	142		142-SRV-S	T (Servo on st	ate output)		
132	TGON (rotat	ion detection)	143		O	Z (Z pulse outp	out)		
133	ZSP (zero s	speed signal)	144			None			
134	P-COIN (positioning completed) 145 COM_VDO1 (co		communicatio	n VDO1 outp	out)				
135 P-NEAR (positioning approach) 146 COM_VDO1 (communication		communicatio	n VDO2 outp	out)					
136	V-COIN (con	sistent speed)	147	CON	M_VDO1 (c	communicatio	n VDO3 outp	out)	

If P06-26 is set to a value other than that in the preceding table, the DO port function is not required The same DO channel function could not be allocated to multiple DO ports, otherwise servo drive will occur A-90 (DO port configuration duplication)

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V-NEAR (speed approach)

T-COIN (torque arrival)

Note: Only VD2F supports 143: OZ (Z pulse output). The function of VD2-0□□SA1G is empty.

P06-27	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU0-27	DO_1 channel logic selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-
DO Port in	out logic validity fu	nction selection.					
Set value			Content				
0	Output transisto	Output transistor is on when the output is valid; Output transistor is off when the output is invalid.					
1	Output transisto	Output transistor is off when the output is valid; Output transistor is on when the output is invalid.					

Output transistor	is off when the outpu	ıt is valid; Output t	ransistor is	on when the	output is in	valid.		
Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
DO_2 channel function selection	Operation setting	Effective immediately	130	128 to 142	DI/DO	-		
Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
DO_2 channel logic selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-		
Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
DO_3 channel function selection	Operation setting	Effective immediately	129	128 to 142	DI/DO	-		
Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
DO_3 channel logic selection	Operation setting	Effective immediately	0	0 to 1	DI/DO	-		
Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
DO_4 channel	0	Effective	124	120 +- 142	D1/D0			
function selection	Operation setting	immediately	134	128 to 142	טטקוט	-		
	Parameter name DO_2 channel function selection Parameter name DO_2 channel logic selection Parameter name DO_3 channel function selection Parameter name DO_3 channel function selection Parameter name DO_3 channel logic selection Parameter name DO_4 channel	Parameter name DO_2 channel function selection Parameter name DO_2 channel logic selection Parameter name DO_3 channel function selection Parameter name DO_3 channel function selection Parameter name DO_3 channel logic selection Parameter name DO_3 channel logic selection Parameter name DO_4 channel DO_4 channel Operation setting Operation setting	Parameter name Setting method Effective time DO_2 channel function selection Operation setting Effective immediately Parameter name Setting method Effective time DO_2 channel logic selection Operation setting Effective immediately Parameter name Setting method Effective time DO_3 channel function selection Operation setting Effective immediately Parameter name Setting method Effective time DO_3 channel logic selection Operation setting Effective immediately Parameter name Setting method Effective time DO_4 channel Operation setting Effective time DO_4 channel Operation setting Effective time	Parameter name DO_2 channel function selectionSetting method Operation settingEffective time immediatelyDefaultParameter name DO_2 channel logic selectionSetting method Operation settingEffective time immediatelyDefaultParameter name DO_3 channel function selectionSetting method Operation settingEffective time immediatelyDefaultParameter name DO_3 channel logic selectionOperation setting Operation settingEffective time immediatelyDefaultDO_3 channel logic selectionOperation settingEffective time immediatelyDefaultDO_3 channel logic selectionOperation settingEffective time immediatelyDefaultDO_4 channel DO_4 channelOperation setting Operation settingEffective time immediatelyDefault	Parameter name DO_2 channel function selectionSetting method Operation settingEffective time immediatelyDefault 130RangeParameter name DO_2 channel logic selectionSetting method Operation settingEffective time immediatelyDefault Effective immediatelyRangeParameter name DO_3 channel function selectionSetting method Operation settingEffective time immediatelyDefault 129RangeParameter name DO_3 channel logic selectionSetting method Operation settingEffective time immediatelyDefault Operation immediatelyParameter name DO_3 channel logic selectionSetting method Operation settingEffective time immediatelyDefault Operation Effective immediatelyParameter name DO_4 channel DO_4 channel Operation settingEffective time Operation settingDefault EffectiveRange	DO_2 channel function selection Operation setting Effective immediately 130 128 to 142 DI/DO		

Operation setting

Effective

immediately

0

0 to 1

DI/DO

[&]quot;S" means use the function code BRK-OFF would be effective after power on again.



Group P07 multi-segment position

P07-01	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-U1	Multi-segment position operation mode	Shutdown setting	Effective immediately	0	0 to 2	-	-

When servo is in position mode, and P01-06 (position instruction source) =1, set the operation mode of multi-segment position

Set value	Operation mode	Remarks
0	Single running	Stop after running one round. The segment number automatic increment switching.
1	Cycle running	Cycle running. The segment number automatic increment switching.
2	DI switching running	Segment number updates can continue to run. The segment numbers are determined by the DI terminal logic

To use multi-segment position function, a DI port channel of servo drive should configured to function 20 (ENINPOS, internal multi-segment position enable signal), and the logic of the DI terminal valid should be confirmed. Please refer to Group P06 DI/DO configuration.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-02	Starting position	Shutdown setting	Effective	1	1 to 16	_	_
	number		immediately	_	1010		

Set the starting segment number in single running or cycle running.

When P07-01≠2, the segment number automatic increment switching.

When P07-01=2, 4 DI ports need be set to DI function 21 (INPOS1, internal multi-segment position segment selection 1 to INPOS4, internal multi-segment position segment selection 4), and the segment number is switched by the servo host computer to control the DI terminal logic. Multi-segment number is 4-bit binary number. The corresponding relations between internal multi-segment position segment selection and segment number are as below.

INPOS4	INPOS3	INPOS2	INPOS1	Operation segment number	
0	0	0	0	1	
0	0	0	1	2	
0	0	1	0	3	
1	1	1	1	16	

If DI terminal logic is valid, the value of internal multi-segment position segment selection is 1, otherwise it is 0.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-03	End position	Shutdown	Effective	1	1 to 16		
	number	setting	immediately	1	1 10 10	-	-

Set the end segment number in single running or cycle running. When P07-01≠2, the segment number automatic increment switching. The switching sequence is: P07-02,, P07-03.



P07-04	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-04	Margin handling method	Shutdown setting	Effective immediately	0	0 to 1	-	-

The starting segment number used for the servo drive will run when it resumes after pausing in multi-segment. "Pause" indicates that internal multi-segment position enable signal changes from valid to invalid.

Set value	Margin handling method	Remarks
0	Run the remaining positions	If P07-03 (end segment number) =16, servo would stop running in the 2nd segment. After restoring the "Internal Multi-Segment Enable Signal", servo would run from the 3rd segment.
1	Run again from the starting position	If P07-02 (start segment number) =1, and P07-03 (end segment number) =16, servo would stop running in the 2nd segment. After restoring the "Internal Multi-Segment Enable Signal", servo would run from the set value of P07-02

Once paused during multi-segment position operation, the servo drive will abandon the unfinished position instructions in this segment and shutdown. Please refer to full version manual Margin handling method.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-05	Displacement	Shutdown	Effective	0	0 to 1		
	instruction type	setting	immediately	0	0 10 1	-	_

Set the displacement instruction type of multi-segment position function. "Displacement instruction" is the sum of the displacement instructions over a period of time.

Set value	Instruction type	Remarks		
0	Relative position instruction	Relative displacement is the increment of the position of		
	Relative position instruction	the target relative to the current position of motor.		
1	Absolute position instruction	Absolute displacement is the increment of the position of		
1	Absolute position instruction	the target relative to the origin of motor		

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-06	Waiting time	Shutdown	Effective	0	0 to 1		
	unit	setting	immediately	U	0 10 1	-	-

Set the waiting unit of multi-segment position function. "waiting time" is the interval between the end of this instruction and the start of the next instruction.

Set value	Waiting time unit
0	ms
1	S

The 1st segment Operatio Effective 10000 -2147483647 to 2147483646	P07-09	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
	P07-09	_	•		10000		-	-

Set the 1st segment position displacement

P07-10	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-10	Maximum speed of the 1st	Operation	Effective	100	1 to	_	rpm
	segment displacement	setting	immediately	100	5000		Ι Ι Ι

Set the maximum speed of the 1st position displacement. Maximum running speed refers to the speed the motor that is not in the process of acceleration and deceleration. If P07-09 (1st position displacement) is set too small, the actual speed of motor would be less than P07-10.



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-11	Acceleration and deceleration time of the 1st segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

Used to set the time when the motor in the multi-segment position is uniformly accelerated from 0rpm to the P07-10 (maximum speed of the 1st segment displacement) in the multi-segment position.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-12	Waiting time after completion of the 1st segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

Used to set the waiting time before running the next segment displacement after the multi-segment position of the 1st displacement is completed

P07-13	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-13	The 2nd segment displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	-

P07-14	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-14	Maximum speed of the	Operation	Effective	100	1 to F000		rnm
	2nd segment displacement	setting	immediately	100	1 to 5000	-	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-15	Acceleration and deceleration time of the 2nd segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-16	Waiting time after completion of the 2nd segment displacement	Operation setting	Effective immediately	100	1 to 65535	ı	Set by P07-06

DOZ 17	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-17	The 3rd segment displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	1

P07-18	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-10	Maximum speed of the 3rd	Operation	Effective	100	1 to 5000	_	rpm
	segment displacement	· '		100	1 10 3000	_	ΙΡΙΙΙ

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-19	Acceleration and deceleration time of the 3rd segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-20	Waiting time after completion of the 3rd segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06



P07-21	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-21	The 4th segment displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	-

P07-22	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-22	Maximum speed of the 4th segment displacement	Operation setting	Effective immediately	100	1 to 5000	-	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-23	Acceleration and deceleration time of the 4th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-24	Waiting time after completion of the 4th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-25	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-25	The 5th segment	e 5th segment Operation Effective		10000	-2147483647 to		
	displacement	setting	immediately	10000	2147483646	-	-

P07-26	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-26	Maximum speed of the 5th	Operation	Effective	100	1 to 5000	_	rnm
	segment displacement	setting	immediately	100	1 10 3000	-	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-27	Acceleration and deceleration time of the 5th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-28	Waiting time after completion of the 5th segment displacement	Operation setting	Effective immediately	100	1 to 65535	ı	Set by P07-06

P07-29	Parameter name	Setting method	Effective time	Default	Range Catego		Unit
PU/-29	The 6th segment	Operation	Effective	10000	-2147483647 to	_	-
	displacement	setting	immediately		2147483646		

P07-30	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU7-30	Maximum speed of the 6th	Operation	Effective	100 1 to 5000	_	rnm	
	segment displacement	setting	immediately	100	1 10 3000	-	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-31	Acceleration and deceleration time of the 6th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-32	Waiting time after completion of the 6th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-33	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-33	The 7th segment	Operation	Effective	10000	-2147483647 to		
	displacement	setting	immediately	10000	2147483646	-	_

P07-34	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-34	Maximum speed of the 7th	Operation	Effective	100	1 to 5000	_	rnm
	segment displacement	setting	immediately	100	1 10 3000	-	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-35	Acceleration and deceleration time of the 7th segment displacement	Operation setting	Effective immediately	100	1 to 65535	1	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-36	Waiting time after completion of the 7th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-37	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-37	The 8th segment displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	-

DO7 29	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-38	Maximum speed of the 8th segment displacement	Operation setting	Effective immediately	100	1 to 5000	-	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-39	Acceleration and deceleration time of the 8th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-40	Waiting time after completion of the 8th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-41	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-41	The 9th segment displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	-

P07-42	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-42	Maximum speed of the 9th	Operation	Effective	100	1 to 5000	_	rpm
	segment displacement	setting	immediately	100	1 10 3000		



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-43	Acceleration and deceleration time of the 9th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-44	Waiting time after completion of the 9th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-45	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU7-45	The 10th segment	Operation	Effective	10000	-2147483647 to		_
	displacement	setting	immediately	10000	2147483646	=	-

P07-46	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-40	Maximum speed of the 10th segment displacement	Operation setting	Effective immediately	100	1 to 5000	-	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-47	Acceleration and deceleration time of the 10th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

		Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P0	7-48	Waiting time after completion of the 10th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-49	Parameter name Setting Effective method time	Default	Range	Category	Unit		
PU/-49	The 11th segment	Operation	Effective	10000	-2147483647 to		
	displacement setting immediate		immediately	10000	2147483646	=	-

P07-50	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
PU/-30	Maximum speed of the 11th	Operation	Effective	100	1 to 5000		rnm
	segment displacement	setting	immediately	100	1 10 3000	_	rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-51	Acceleration and deceleration time of the 11th segment displacement	Operation setting	Effective immediately	100	1 to 65535	ı	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-52	Waiting time after completion of the 11th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-53	Parameter name Setting method		Effective time	Default	Range	Category	Unit
PU/-55	The 12th segment displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	-



				Wecon	VD2 S	SA S	eries Se	ervo Drive	s Manual (L	ite V1.1)
Parameter name			_	tin	ne	D	efault	Range	Category	Unit
·		Ope	ration				100	1 to 5000	, -	rpm
segment displaceme	nt	set	tting	immed	diately		100	1 10 3000	<u> </u>	ı pılı
Parameter name			_			De	efault	Range	Category	Unit
Acceleration and	·ho	Oper	ration	Effect	tive		100	1 to 65531	_	ms
		set	ting	immed	iately			1 10 0555.		1113
Parameter name	Set	ting method E		Effectiv	ve time	:	Default	Range	Category	Unit
Waiting time after completion of the 12th segment displacement	(Operation setting i					100	1 to 65535	-	Set by P07-06
Parameter name		thod time			Defa	ılt	R	ange	Category	Unit
The 13th segment displacement	•				1000	0			-	-
Parameter name		Setting method				D	efault	Range	Category	Unit
•		h Operation setting					100	1 to 5000	-	rpm
Parameter name		Setting method				De	efault	Range	Category	Unit
deceleration time of t				Effective immediately			100	1 to 6553!	-	ms
Parameter name	Set	ting me	ethod	Effectiv	e time		Default	Range	Category	Unit
Waiting time after completion of the 13th segment displacement	(•		Effective immediately		100		1 to 65535	-	Set by P07-06
Parameter name		_			Defau	ılt R		ange	Category	Unit
The 14th segment displacement	•				1000	0			-	-
Parameter name			_			D	efault	Range	Category	Unit
•							100	1 to 5000	-	rpm
Parameter name			_			De	efault	Range	Category	Unit
		1 .					100	1 to 6553	5 -	ms
		ting me	ethod	Effectiv	e time		Default	Range	Category	Unit
		peration				Default 100			30.1080.1	Set by
	Parameter name Acceleration and deceleration time of to 12th segment displacement Parameter name Waiting time after completion of the 12th segment displacement Parameter name The 13th segment displacement Parameter name Maximum speed of the segment displacement Parameter name Acceleration and deceleration time of to 13th segment displacement Parameter name Waiting time after completion of the 13th segment displacement Parameter name Waiting time after completion of the 13th segment displacement Parameter name The 14th segment displacement Parameter name The 14th segment displacement Parameter name Acceleration and deceleration time of the segment displacement	Parameter name Maximum speed of the 12th segment displacement Parameter name Acceleration and deceleration time of the 12th segment displacement Parameter name Waiting time after completion of the 12th segment displacement Parameter name The 13th segment displacement Parameter name Maximum speed of the 13th segment displacement 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P07-65	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
	The 15th segment	Operation	Effective	10000	-2147483647 to	-	ı
	displacement	setting	immediately		2147483646		

P07-66	Parameter name	Setting method			Range	Category	Unit
	Maximum speed of the 15th	Operation	Effective	100	1 to 5000	_	*****
	segment displacement setting immediately		100	1 10 3000	_	rpm	

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-67	Acceleration and deceleration time of the 15th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-68	Waiting time after completion of the 15th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

P07-69	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-69	The 16th segment	Operation	Effective	10000	-2147483647 to	_	_
	displacement	setting	immediately		2147483646		

P07-70	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
	Maximum speed of the 16th	Operation	Effective	100	1 to 5000	-	rnm
	segment displacement	setting	immediately	100	1 10 3000		rpm

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-71	Acceleration and deceleration time of the 16th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	ms

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P07-72	Waiting time after completion of the 16th segment displacement	Operation setting	Effective immediately	100	1 to 65535	-	Set by P07-06

Group P10 Accessibility

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P10-01	JOG speed	Operation setting	Effective immediately	100	0 to 3000	Accessibility	ms	
Used to set JOG speed								

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P10-02	Factory reset	Shutdown setting	Effective immediately	0	0 to 1	Accessibility	-	
Write 1 to factory reset								



	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P10-03	Fault clearing	Operation setting	Effective immediately	0	0 to 1	Accessibility	-

Fault reset operation selection

Set value	Function	Remarks
0	No operation	-
1	Fault clearing	For clearable faults, after the cause of fault is removed, and write 1 to the function code, the drive will stop the fault display and enter the Rdy (or RUN) state again.

Note: If the servo S-ON is valid, when the fault is removed and cleared, the servo will directly enter "Run" state. When performing fault clearing actions, please be sure to stop sending control instructions such as pulses to ensure personal safety.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P10-04	Motor overload	Operation	Effective	100 0 to 800	0 to	Accessibility	%
	protection time factor	setting	immediately		Accessibility	/0	

Set the time for code A-82 (Motor overload warning) and Er.34 (Motor overload protection fault) through this function code.

According to the heating condition of the motor, modifying this value could make the overload protection time fluctuate up and down the reference value. 50 corresponds to 50%, that is, the time is reduced by half; 300 corresponds to 300%, that is, the time is extended to 3 times.

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P10-05	Motor model	Operation setting	Power-on again	0	0 to 65535	Accessibility	-

This function code displays the motor code code of the motor currently recognized by the servo drive (including the last successful recognition).

Note: It is necessary to connect the motor first, and then power on the drive. Otherwise, it will report "Er.27" (encoder disconnection fault).

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P10-0	Multi-turn absolute	Shutdown	Effective	0	0 to 1	Accessibility	
	encoder reset	setting	immediately	U	0 10 1	Accessibility	-

Used to clear the rotation number of multi-turn absolute encoder (U0-55), current position (U0-56) or clear the encoder fault alarms

Set value	Function
0	No operation;
1	Clear multi-turn data, encoder current position and encoder fault alarms

Note: After reset (P10-06 is set to 1), the absolute position of the encoder will change suddenly, and the mechanical origin return operation is required.



Wecon VD2 SA Se Group P12 Communication parameters

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P12-01	Servo address	Operation setting	Effective immediately	1	1 to 247	Communication parameter	-
Set the Modbus communication address of servo drive							

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P12-02	Baud rate	Operation	Effective	2	0 to 5	Communication	_
	Dada Tate	setting	immediately		0 10 3	parameter	_

Set the communication rate between servo drive and Modbus software. The communication rate of the servo drive must be consistent with that of the ModBus software, otherwise it could not communicate.

Set value	Baud rate setting	Set value	Baud rate setting
0	2400 bps	3	19200 bps
1	4800 bps	4	38400 bps
2	9600 bps	5	57600 bps

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P12-03	Serial data	Operation	Effective	0	0 to 3	Communication	
	format	setting	immediately		0 10 3	parameter	-

Used to set the data verification mode when the servo drive communicates with ModBus. The data format of servo drive must be consistent with that of the ModBus software, otherwise it could not communicate.

Set value	Data format		
0	1 stop bit, no parity		
1	1 stop bit, odd parity		
2	1 stop bit, even parity		
3	2 stop bits, no parity		

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P12-04	Write Modbus communication data to EEPROM	Operation setting	Effective immediately	0	0 to 1	Communication parameter	-

Whether the function code written by the communication method is saved to EEPRO

Set value Whether the function code written by the communication method is saved to EEPRO			
0 Do not write to EEPROM, and do not save data after power failure;			
1	Write to EEPROM, and save data after power failure;		

Note: If you need to change the function code value frequently, it is recommended to set the function code to 0, otherwise the EEPROM would be damaged due to frequent erase of EEPROM. "Er.02" (Parameter Storage Error) will occur on the servo drive.

P12-05	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
₩ P1Z-03	RS422/RS485	Operation	Effective	0	0 to 1	Communication	
W	function selection	setting	immediately	U	0 10 1	parameter	-

Used to set the communication method of VD2F servo drive (The CN3 and CN4 of VD2F are time division multiplexing communication ports, and support RS422 and RS485 time division multiplexing)

Set value	Communication method
0	RS422 communication
1	RS485 communication

Note: "☆" indicates that only VD2F servo drive support this function code. The VD2-0XXSA1G model does not have this function code.



Wecon VD2 SA Series Servo Drives Manual (Soroup P13 Communication input and output terminal

	Parameter name	Setting meth	od	Effective time	Default	Range Catego		Unit
P13-01	Virtual VDI 1 input value	Operation		Effective	0	0 to 1	DI/DO	
	viituai vDi_1 iliput value	setting	setting		U	0 10 1	DI/DO	_
When PO	When P06-04 is set to 1, DI_1 channel logic is controlled by this function				code.			
		Set value	VD	I_1 input level				
		0		High level				
		1	1					

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
P13-02	Virtual VDI_2 input value	Operation setting	Effective immediately	0	0 to 1	DI/DO	-
When PO	06-07 is set to 1, DI_2 channe	l logic is controlled	by this function	code.	'		

	Parameter name	Setting method	etting method Effective time Default		Range	Category	Unit
P13-03	Virtual VDI_3 input value	Operation setting	Effective immediately	0	0 to 1	DI/DO	1
When P06-10 is set to 1, DI_3 channel logic is controlled by this function code.							

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P13-04	Virtual VDI_2 input value	Operation setting	Effective immediately	0	0 to 1	DI/DO	-	
When P06-13 is set to 1, DI_4 channel logic is controlled by this function code.								

	Parameter name	Setting method	Effective time	Default	Range	Category	Unit	
P13-05	Virtual VDI_5 input value	Operation setting	Effective immediately	0	0 to 1	DI/DO	-	
When PC	When P06-16 is set to 1, DI_5 channel logic is controlled by this function code.							

P13-06	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	Virtual VDI_6 input value	Operation setting	Effective immediately	0	0 to 1	DI/DO	-
When P06-19 is set to 1, DI_6 channel logic is controlled by this function code.							

P13-07	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	Virtual VDI_7 input value	Operation setting	Effective immediately	0	0 to 1	DI/DO	ı
When P06-22 is set to 1, DI_7 channel logic is controlled by this function code.							

P13-08	Parameter name	Setting method	Effective time	Default	Range	Category	Unit
☆	Virtual VDI_8 input value	Operation setting	Effective immediately	0	0 to 1	DI/DO	-
When P06-25 is set to 1, DI_8 channel logic is controlled by this function code.							

	Parameter name	Setting method		Effective time	Default	Range	Category	Unit
P13-11	Virtual VDO 1 input value	Operation		Effective	0	0 to 1	DI/DO	
	Viituai VDO_1 iliput value	setting		immediately	U	0 10 1	DIVDO	_
Used to set the input level logic when the DO function selected by \		elected by VDO_1	L is valid					
		Set value	VDo	_1 input level				
		0		High level				
		1		Low level				

[&]quot;☆" indicates that the VD2F servo drive does not support this function code.



			Wecon VDZ 3A 3eries 3ervo Drives Manual (Lite V1.1						
	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P13-12	Virtual VD0 2 input value	Operation	Effective	0	0 to 1	DI/DO	_		
	virtual vbo_2 iliput value	setting	immediately	U	0 10 1	DI/DO	-		
	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P13-13	Vistoral VDO 2 in north value	Operation	Effective	0	0+- 1	D1/D0			
	Virtual VD0_3 input value	setting	immediately	0	0 to 1	DI/DO	-		
	Parameter name	Setting method	Effective time	Default	Range	Category	Unit		
P13-14	Virtual VDQ 4 input value	Operation	Effective	0	0 to 1	DI/DO			
	Virtual VD0_4 input value	setting	immediately	U	0 10 1	DIVDO	-		

Group U0 Universal monitoring

U0-01	Monitor	Monitoring name Servo status		Category	Panel	display	Unit	Data type
00-01	Servo			Universa	Dec	Decimal		16-bit
Display tl	e status of servo drive.							
		Display value	Status	Display value	Status			
	. ,		Initialization	3	Run			
	2 R		Rdy and JOG	4	Fault			

U0-02	Monitoring name		Rai	nge	Category	Panel display	Unit	Data type
00-02	Servo motor spec	Servo motor speed		o 5000	Universal	Decimal	rpm	16-bit
Display th	e actual speed of servo dri	ve. The acc	curacy is	1 rpm. Tl	ne display of	servo drive pane	el is as b	elow.
		500 rpm (display	-500 rp	m display			
		5		0	500			

U0-03	Monitoring name	Rai	nge	Category	Panel display	Unit	Data type	
00-03	Input speed instruction	-5000 t	o 5000	Universal	Decimal	rpm	16-bit	
Display input speed instruction. The accuracy is 1 rpm. The display of servo drive panel is as below.								
	3000 rpm		-3000 r	pm display				

	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-04	Corresponding speed of position instruction	-5000 to 5000	Universal	Decimal	rpm	16-bit

Display the current speed instruction value of servo drive in position mode. The accuracy is 1 rpm. The display of servo drive panel is as below.

3000 rpm display	-3000 rpm display			
	-][[[

	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-05	Pulse deviation	-2 ³¹ to 2 ³¹	Universal	Decimal	Equivalent pulse	32-bit
					deviation	
Display pu	ılse deviation. If U0-0	5 is set to 32768,	the display o	f servo drive pane	el is as below.	
1	Shift ∳					
		Shift		Shift		

second page

first page

High 4 bits

Third page



	Monitoring name	Range	Category	Panel display	Unit	Data type		
U0-08	Input instruction pulse frequency	-	Universal	Decimal	KHz	16-bit		
Display th	Display the input instruction pulse frequency of servo drive.							

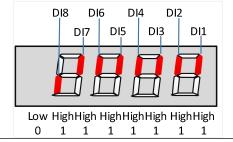
	Moni	toring name	Range	Category	Panel display	Unit	Data type		
U0-09	U0-09 Input instruction pulse number		-2 ³¹ to 2 ³¹	Universal	Decimal	Equivalent pulse deviation	32-bit		
	Display instruction pulse number that input the servo drive. If U0-09 is set to -2147483646, the display of servo								
drive panel is as below.									
	Shift (1)								
		Shift Shift							
	Low 4 bits Middle 4 bits High 4 bits first page second page Third page								

	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-13	Encoder cumulative position (Lower 32 bits)	-2 ³¹ to 2 ³¹	Universal	Decimal	Encoder unit	32-bit

	Monitoring name	Range	Category	Panel display	Unit	Data type	
U0-15	Encoder cumulative position (High 32 bits)	-2 ³¹ to 2 ³¹	Universal	Decimal	Encoder unit	32-bit	
Display the cumulative data of encoder position. It is used with U0-13 cooperatively.							

	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-17	DI input signal status	00000000 to 1111111	Universal	Binary	Encoder unit	16-bit

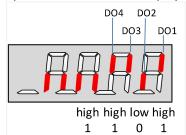
Display the current level status of DI terminal. The upper part of the digital tube of servo drive panel is lit up to indicate a high level (denoted by "1"). The lower part is lit up to indicate a low level (denoted by "0"). Take the DI1 to DI7 terminals as the high level and DI8 as the low level as an example. The corresponding binary code is "01111111", and Wecon servo control device debugging software U0-17 displays the current binary value is 0b0111 1111. The panel of servo drive is displayed as below.





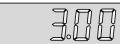
	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-19	DO output signal status	00000000 to 00001111	Universal	Binary	Encoder unit	16-bit

Display the current level status of 4 DO terminals. The upper part of the digital tube of servo drive panel is lit up to indicate a high level (denoted by "1"). The lower part is lit up to indicate a low level (denoted by "0"). Take the DO1, DO2 and DO3 terminals as the high level and DO2 as the low level as an example. The corresponding binary code is "1101", and Wecon servo upper computer debugging software U0-17 displays the current binary value is 0b0000 1101. The panel of servo drive is displayed as below.



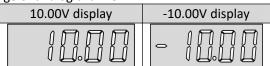
U0-20	Monitoring name	Range	Category	Panel display	Unit	Data type
00-20	Real-time load inertia ratio	0 to 1000000	Universal	Decimal	%	16-bit

Display the current load inertia ratio. If the load inertia ratio is 3 times (300%), the panel of servo drive is displayed as below.



	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-21	AI1 input voltage value		Universal	Docimal		16 bit
	Reserved ☆	_	Universal	Decimal	\ \	16-bit

Display the actual sampling voltage of analog channel 1.



"\[\sqrt{"} indicates that the VD2F servo drive does not have this monitoring.

U0-22	Monitoring name	Range	Category	Panel display	Unit	Data type		
	AI2 input voltage value		Universal	Decimal	V	16-bit		
	Reserved☆							
"☆" indicates that the VD2F servo drive does not have this monitoring.								

U0-23	Monitoring name	Range	Category	Panel display	Unit	Data type
00-23	Vibration Frequency	-	Universal	Decimal	Hz	16-bit

110.24	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-24	Vibration amplitude	-	Universal	Decimal	rpm	16-bit

U0-25	Monitoring name	Range	Category	Panel display	Unit	Data type
00-25	Forward torque limit value	0 to 300	Universal	Decimal	%	16-bit

Display the set value of P01-15 (forward torque limit) of servo drive. If U0-25 is 288%, the panel of servo drive is displayed as below.





U0-26	Monitoring name	Range	Category	Panel display	Unit	Data type
00-20	Reverse torque limit value	0 to 300	Universal	Decimal	%	16-bit

Display the set value of P01-16 (reverse torque limit) of servo drive. If U0-26 is 300%, the panel of servo drive is displayed as below.



U0-27	Monitoring name	Range	Category	Panel display	Unit	Data type
00-27	Forward speed limit value	0 to 5000	Universal	Decimal	rpm	16-bit

Display the set value of P01-12 (forward speed threshold) of servo drive. If P01-12 is set to 2000, the panel of servo drive is displayed as below.



U0-28	Monitoring name	Range	Category	Panel display	Unit	Data type
00-28	Reverse speed limit value	-5000 to 0	Universal	Decimal	rpm	16-bit

Display the set value of P01-13 (reverse speed threshold) of servo drive. If P01-13 is set to 3000, the panel of servo drive is displayed as below.



110.20	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-29	Mechanical angle	0 to 359	Universal	Decimal	۰	16-bit

Display current mechanical angle of motor. 0 corresponds to a mechanical angle of 0 degree. If the mechanical angle is 270°, the panel of servo drive is displayed as below.



110.20	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-30	Electrical angle	0 to 359	Universal	Decimal	0	16-bit

Display current electrical angle of motor. The accuracy is 1°. When the motor rotates, the angle range is 360°. When the motor is 4 poles, every time the motor is rotated one turn, it undergoes a change process of 0° to 359° four times.



110.21	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-31	Bus voltage	-	Universal	Decimal	V	16-bit

Display the DC bus voltage of the main circuit input voltage of servo drive after rectification. If the bus voltage is 310.9, the panel of servo drive is displayed as below.



U0-32	Monitoring name	Range	Category	Panel display	Unit	Data type
00-32	Radiator temperature	-	Universal	Decimal	°C	16-bit

U0-33	Monitoring name	Range	Category	Panel display	Unit	Data type
00-55	Instantaneous output power	-	Universal	Decimal	W	16-bit

U0-34	Monitoring name	Range	Category	Panel display	Unit	Data type
00-54	Average output power	-	Universal	Decimal	W	16-bit



		Wecon VD2 SA Series Servo Drives Manual (Lite V1.1)						
110.25	Monitoring name	Range	Category	Panel display	Unit	Data type		
U0-35	Total operation time (hour)	-	Universal	Decimal	h	16-bit		
U0-37	Monitoring name	Range	Category	Panel display	Unit	Data type		
00-37	Total operation time (minutes)	-	Universal	Decimal	min	16-bit		
	Monitoring name	Range	Category	Panel display	Unit	Data typ		
U0-38	Total operation time (seconds)	-	Universal	Decimal	S	16-bit		
U0-39	Monitoring name	Range	Category	Panel display	Unit	Data typ		
00-59	Load torque percentage	-	Universal	Decimal	%	16-bit		
		ĬÙ						
110.40	Monitoring name	Range	_	Barrel Parlan				
U0-40	-		Category	Panel display	Unit	Data typ		
	Current operation time (hour)	-	Category Universal	Decimal	Unit h	Data typ 16-bit		
		-	Universal	Decimal	h	16-bit		
U0-42	Monitoring name	Range	Universal Category	Decimal Panel display		16-bit Data typ		
U0-42		Range	Universal	Decimal	h	16-bit		
	Monitoring name	Range -	Universal Category	Decimal Panel display	h Unit	16-bit Data typ		
U0-42 U0-43	Monitoring name Current operation time (minutes)	-	Universal Category Universal	Decimal Panel display Decimal	h Unit min	16-bit Data typ 16-bit		

110 44	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-44	Instantaneous braking resistor power	-	Universal	Decimal	W	16-bit

	U0-46	Monitoring name	Range	Category	Panel display	Unit	Data type
	00-40	Average braking resistor power	-	Universal	Decimal	W	16-bit
•							

U0-48	Monitoring name	Range	Category	Panel display	Unit	Data type
00-40	Power-on times	-	Universal	Decimal	Times	16-bit

	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-50	Motor cumulative number of turns (low 32 bits)	0 to 2 ³² -1	Universal	Decimal	Cycles	32-bit

	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-51	Motor cumulative number of turns (high 32 bits)	0 to 2 ³² -1	Universal	Decimal	Cycles	32-bit

110 53	Monitoring name	Range	Category	Panel display	Unit	Data type
U0-53	Motor model code	-	Universal	Hexadecimal	-	16-bit

Display current Motor model code. Take WD80M-07530S-A1F (A026) as an example, the panel of servo drive is displayed as below.



	Monitoring name	Range	Category	Panel display	Unit	Data type			
U0-54	Absolute encoder position within 1 circle	0 to 2 ³² -1	Universal	Decimal	Encoder unit	32-bit			
Display th	Display the single turn position feedback value of absolute encoder								



	Monitoring name	Range	Category	Panel display	Unit	Data type			
U0-55	Circle numbers of absolute encoder	0 to 65535	Universal	Decimal	Encoder unit	16-bit			
Display th	Display the circle number of multi-turn absolute encoder								

	Monitoring name	Range	Category	Panel display	Unit	Data type		
U0-56	Multi-turn absolute encoder current position	-2 ³¹ to 2 ³¹	Universal	Decimal	Instruction unit	32-bit		
Display the absolute position of motor (instruction unit). It is only valid is multi-turn absolute encoder motor								

Group U1 Warning monitoring

114 04	Monitoring name	Range	Category	Panel display	Unit	Data type		
U1-01	Current fault code	-	Warning	-	-	16-bit		
If there is	If there is fault in servo drive, it would display the corresponding fault. If not, the panel displays "".							
Take the f	Take the fault "encoder disconnect" as an example, the panel of servo drive is displayed as below.							
	Servo drive has an fault "encoder disconnection"			Servo drive has r	o fault			
	Er.27			0	0			

114.03	Monitoring name		Category	Panel display	Unit	Data type
U1-02	Current warning code	-	Warning	-	-	16-bit
If there is warning in servo drive, it would display the corresponding warning. If not, the panel displays "".						
Take the	warning"DI port configuration duplication" as	an exampl	e, the panel	is displayed as b	oelow.	
	Servo drive has an warning "DI port configura	ation dupl	ication" So	ervo drive has no	warnir	ng
	A-89					

114.02	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-03	U phase current when faults occur	-	Warning	Decimal	Α	16-bit

114.04	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-04	V phase current when faults occur	-	Warning	Decimal	Α	16-bit

114.05	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-05	Bus voltage when faults occur	-	Warning	Decimal	V	16-bit

114.0	_	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-0	b	IGBT temperature when faults occur	-	Warning	Decimal	$^{\circ}$	16-bit

	114 07	Monitoring name	Range	Category	Panel display	Unit	Data type
'	U1-07	Torque component when faults occur	-	Warning	Decimal	%	16-bit

114.00	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-08	Excitation component when faults occur	-	Warning	Decimal	%	16-bit

	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-09	Position deviation when faults occur	-	Warning	Decimal	Encoder unit	32-bit



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	LLIN	wecon	VDZ SA Ser	ies Servo Drives	Manua	ii (Litte V 1.1)
111-10	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-10	The speed when faults occur	-	Warning	Decimal	rpm	16-bit
114.44	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-11	The time when faults occur	-	Warning	Decimal	S	16-bit
	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-12	Number of faults in this operation	-	Warning	Decimal	-	16-bit
	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-13	Number of warnings in this operation	-	Warning	Decimal	-	16-bit
	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-14	Total number of historical faults	-	Warning	Decimal	-	16-bit
	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-15	Total number of historical warnings	-	Warning	Decimal	-	16-bit
	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-16	The 1st fault code of the most recent	- Turige	Warning	-	-	16-bit
Display the	1st fault code of the most recent of servo d	rive	Warring			10 510
	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-17	The 2nd fault code of the most recent	-	Warning	-	-	16-bit
U1-18	Monitoring name	Range	Category	Panel display	Unit	Data type
01 10	The 3rd fault code of the most recent	-	Warning	-	-	16-bit
114.40	Monitoring name	Range	Category	Panel display	Unit	Data type
U1-19	Monitoring name The 4th fault code of the most recent	Range -	Category Warning	Panel display	Unit -	Data type 16-bit
U1-19	The 4th fault code of the most recent	-	Warning	-	-	16-bit
U1-19	<u> </u>			Panel display Panel display		
	The 4th fault code of the most recent Monitoring name The 5th fault code of the most recent	Range	Warning Category Warning	Panel display	- Unit	16-bit Data type 16-bit
	The 4th fault code of the most recent Monitoring name The 5th fault code of the most recent Monitoring name	Range	Warning Category Warning Category	-	- Unit	Data type 16-bit Data type
U1-20 U1-21	The 4th fault code of the most recent Monitoring name The 5th fault code of the most recent	Range Range	Warning Category Warning	Panel display	- Unit	16-bit Data type 16-bit
U1-20 -	The 4th fault code of the most recent Monitoring name The 5th fault code of the most recent Monitoring name The 1st warning code of the most recent	Range Range	Warning Category Warning Category	Panel display	- Unit	Data type 16-bit Data type
U1-20 U1-21 Display the	Monitoring name The 5th fault code of the most recent Monitoring name Monitoring name The 1st warning code of the most recent 1st warning code of the most recent of serv	Range Range	Warning Category Warning Category	Panel display	- Unit	Data type 16-bit Data type 16-bit Data type 16-bit
U1-20 -	The 4th fault code of the most recent Monitoring name The 5th fault code of the most recent Monitoring name The 1st warning code of the most recent 1st warning code of the most recent of serv	Range - Range - o drive	Warning Category Warning Category Warning	Panel display - Panel display -	- Unit	Data type 16-bit Data type 16-bit 16-bit
U1-20 U1-21 Display the	Monitoring name The 5th fault code of the most recent Monitoring name Monitoring name The 1st warning code of the most recent 1st warning code of the most recent of serv	Range - Range - o drive	Category Warning Category Warning Category Category	Panel display - Panel display -	Unit - Unit -	Data type 16-bit Data type 16-bit Data type 16-bit
U1-20 U1-21 Display the	Monitoring name The 5th fault code of the most recent Monitoring name The 1st warning code of the most recent 1st warning code of the most recent Monitoring name The 2nd warning code of the most recent	Range - Range - o drive Range -	Category Warning Category Warning Category Warning Category Warning	Panel display - Panel display - Panel display -	Unit - Unit - Unit -	Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit
U1-20 U1-21 Display the U1-22	Monitoring name The 5th fault code of the most recent Monitoring name The 1st warning code of the most recent 1st warning code of the most recent 1st warning code of the most recent of serv Monitoring name The 2nd warning code of the most recent Monitoring name The 3rd warning code of the most recent	Range - Range - To drive Range - Range Range	Category Warning Category Warning Category Warning Category Warning Category Warning	Panel display - Panel display - Panel display - Panel display -	Unit - Unit - Unit - Unit	Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit
U1-20 U1-21 Display the	Monitoring name The 5th fault code of the most recent Monitoring name The 1st warning code of the most recent 1st warning code of the most recent The 2nd warning code of the most recent Monitoring name The 2nd warning code of the most recent	Range - To drive Range - Range - Range	Category Warning Category Warning Category Warning Category Category Category	Panel display - Panel display - Panel display -	Unit - Unit - Unit - Unit	Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit Data type
U1-20 U1-21 Display the U1-22	Monitoring name The 5th fault code of the most recent Monitoring name The 1st warning code of the most recent 1st warning code of the most recent 1st warning code of the most recent of serv Monitoring name The 2nd warning code of the most recent Monitoring name The 3rd warning code of the most recent Monitoring name The 3rd warning code of the most recent	Range - o drive Range - Range - Range - Range	Category Warning Category Warning Category Warning Category Warning Category Category Category Category Category Category	Panel display - Panel display - Panel display - Panel display -	Unit - Unit - Unit - Unit - Unit	Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit
U1-20 U1-21 Display the U1-22	Monitoring name The 5th fault code of the most recent Monitoring name The 1st warning code of the most recent 1st warning code of the most recent 1st warning code of the most recent of serv Monitoring name The 2nd warning code of the most recent Monitoring name The 3rd warning code of the most recent Monitoring name The 3rd warning code of the most recent	Range - o drive Range - Range - Range - Range	Category Warning Category Warning Category Warning Category Warning Category Category Category Category Category Category	Panel display - Panel display - Panel display - Panel display -	Unit - Unit - Unit - Unit - Unit	Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit Data type 16-bit



Group U2 Device monitoring

112.04	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-01	Product series	-	Device	Hexadecimal	ı	16-bit

Display the product series code of servo drive.

The product series code of VD2A and VD2B is 0x4432. The product series code of VD2F is 0x3246.

There are displayed as below.



112.02	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-02	Model		Device	Hexadecimal	-	16-bit
Display the	the servo drive model.					
	II2 Of diamlass	112 02 diamlass	84	a al a l		

U2-01display	U2-02 display	Model
		VD2-010SA1G
		VD2-014SA1G
		VD2-016SA1G
4432		VD2-019SA1G
		VD2-021SA1G
		VD2-025SA1G
		VD2-030SA1G
		VD2F-010SA1P
		VD2F-014SA1P

112.02	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-03	Model	-	Warning	Hexadecimal	-	16-bit

112.04	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-04	Firmware version	-	Device	Decimal	-	16-bit

Display the firmware version

Display format: X.YY. For example, 1.13. The panel is displayed as below.



112.05	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-05	Hardware version	-	Device	Decimal	ı	16-bit

Display the hardware version (FPGA)

Display format: X.YY. For example, 1.01. The panel is displayed as below.



	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-06	Manufacture date (year)		Douise	Desimal	Voor	1.C h:+
	Firmware date (year) *	_	Device	Decimal	Year	16-bit
Display the year of manufacture of the VD2F drive firmware.						

	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-07	Manufacture date (month)		Dovice	Dooimal	Manth	10 h:+
	Firmware date (month) *	_	Device	Decimal	Month 16-bit	
Display the month of manufacture of the VD2F drive firmware.						

	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-08	Manufacture date (day)		Dovice	Docimal	Day	16-bit
	Firmware date (day) *	_	Device	Decimal	Day	10-011

Displays the production date of the VD2F drive firmware.

For example, the firmware production day of VD2F-014SA1P_V1.01 is January 10, 2022, the panel is displayed as below.

U2-06	U2-07	U2-08		
	0			

112.00	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-09	Device serial number 1	-	Warning	Decimal	-	16-bit
112.40	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-10	Device serial number 2	-	Warning	Decimal	-	16-bit
112.44	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-11	Device serial number 3	-	Warning	Decimal	-	16-bit
112.42	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-12	Device serial number 4	-	Warning	Decimal	-	16-bit
	Monitoring name	Dongo	Cotocomi	Danal display	I Imit	Data tura

112-13	Monitoring name	Range	Category	Panel display	Unit	Data type
UZ-13	Device serial number 5	-	Warning	Decimal	-	16-bit

112.44	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-14	Device serial number 6	-	Warning	Decimal	-	16-bit

U2-15	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-15	Device serial number 7	-	Warning	Decimal	-	16-bit

112.46	Monitoring name	Range	Category	Panel display	Unit	Data type
U2-16	Device serial number 8	-	Warning	Decimal	-	16-bit



7. Malfunctions

7.1 Faults and warnings handling at startup

7.1.1 Position control mode

Boot process	Fault phenomenon	Reason	Confirmation method			
Power supply	① Digital tube does	Control terminal is disconnected	Rewiring L1C and L2C power lines are led separately from the socket			
(L1, L2, L3) Turn on control	② Voltage indicator s not light up	Control the supply voltage failure	Measures the AC voltage between L1C &L2C.			
supply (L1C, L2C)		Servo drive fault	Contact the agent or customer service			
	Panel display "Er.xx" Refer to 7.2 Handling of faults and warnings during operation					
	After removing the faul	After removing the fault, the servo drive panel should display "rdy"				
Servo drive enable signal is valid(S-ON is ON)	The axis of servo motor is in a free running state	Servo enable signal is invalid	Check whether group P06 is set the servo enable signal (DI function 1: S-ON). If it is, check whether the corresponding DI terminal logic is valid. If it is invalid, please make it valid. Refer to Group P06 DI/DO configuration If group P06 parameters have set the servo enable signal, and the corresponding terminal logic is valid, but the panel still displays "rdy", check whether the DI terminal wiring is correct, please refer to 4 Wiring			
	Panel display Fryy	Control mode error	Check whether the parameter P00-01 is set correctly			
	Panel display Er.xx Refer to 7.2 Handling of faults and warnings during operation After troubleshooting, the servo drive panel should display "run"					
Input position instruction	The motor does not rotate	U0-09 (input instruction pulse number) always displays 0	Not input position instruction Confirm whether DI terminal uses forward drive prohibited (DI function 3: POT) or reverse drive prohibited (DI function 4: NOT). Confirm whether DI terminal uses instruction pulse input prohibited (DI function 11: INH). When P01-06=0(position instruction source), PLC or other pulse output device do not output pulse. Please use oscilloscope to check whether there is pulse input or check U0-08 (input instruction pulse frequency). Refer to 4 Wiring. When P01-06=1(position instruction source), please check whether the parameters of group P07 are set correctly. If yes, please confirm whether the DI function 20 (internal multi-segment position enable signal) and the corresponding DI terminal logic are set to be valid. Refer to Group P07 multi-segment position.			



	After troubleshooting, the servo motor should be able to rotate normally				
The motor does	Unstable low speed Unreasonable gain setting		Please adjust the gain.		
not rotate smoothly at low	The motor shaft	Load inertia ratio	After the inertia recognition is complete,		
•	vibrates left and right	is too large	performs gain adjustment.		
speed	After troubleshooting, the servo motor should be able to rotate normally				
Normal operation	Inaccurate positioning	There is a position deviation that does not meet production requirements	Confirm the U0-09 value (input instruction pulse number) is consistent with the actual one sent by the host computer. If not, please check confirm whether the motor is blocked. Confirm whether the device is vibrating. If yes, adjust the gain. Confirm whether the coupling at the motor shaft is locked.		

7.1.2 Speed control mode

Boot process	Fault phenomenon	Reason	Confirmation method		
Power supply	① Digital tube does not light up ② Voltage	Control terminal is disconnected	Rewiring L1C and L2C power lines are led separately from the socket		
(L1, L2, L3) Turn on control	indicator does not light up	Control the supply voltage failure	Measures the AC voltage between L1C &L2C.		
supply (L1C, L2C)	light up	Servo drive fault	Contact the agent or customer service		
	Panel display "Er.xx"	Refer to 7.2 Handlin	g of faults and warnings during operation		
	After removing the faul	t, the servo drive pane	el should display "rdy"		
Servo drive enable signal is valid(S-ON is ON)	The axis of servo motor is in a free ble signal is running state		Check whether group P06 is set the servo enable signal (DI function 1: S-ON). If it is, check whether the corresponding DI terminal logic is valid. If it is invalid, please make it valid. Refer to Group P06 DI/DO configuration. If group P06 parameters have set the servo enable signal, and the corresponding terminal logic is valid, but the panel still displays "rdy", check whether the DI terminal wiring is correct, please refer to 4 Wiring.		
		Control mode error	Check whether the parameter P00-01 is set correctly		
	Panel display Er.xx		ng of faults and warnings during operation		
	After troubleshooting, the servo drive panel should display "run"				
Input torque instruction	The motor does not rotate	U0-03 (input instruction pulse number) always displays 0	 Al wiring error When selecting analog input signal, make sure that the connection of analog input terminal is correct. Refer to 4 Wiring. Not input speed instruction or speed instruction abnormal ① When selecting analog input signal, please confirm the Al parameters of group P05 is set correct, and then check the analog input voltage signal. It could be observed by oscilloscope or read by monitoring U0-21 and U0-22. 		



			 When the internal speed instruction is given, please confirm P01-02 (internal speed instruction)is 0. When using multi-segment speed function, please confirm the internal speed 	
			instruction parameters 0 to 7 of group P01 are right. ① Please confirm whether the ZERO-speed clamp function is used for the DI terminal.	
			(DI function 5: ZCLAMP)	
	After troubleshooting, the servo motor should be able to rotate normally			
The motor does	Unstable low speed	Unreasonable gain setting	Please adjust the gain.	
not rotate smoothly at low	The motor shaft	Load inertia ratio	After the inertia recognition is complete,	
	vibrates left and right	is too large	performs gain adjustment.	
speed	After troubleshooting, the servo motor should be able to rotate normally			

Note: VD2F does not support monitoring u0-21 and U0-22.

7.1.3 Torque control mode

Boot process	Fault phenomenon	Reason	Confirmation method
Power supply	① Digital tube does not light up	Control terminal is disconnected	Rewiring L1C and L2C power lines are led separately from the socket
(L1, L2, L3) Turn on control	2 Voltage indicator does not	Control the supply voltage failure	Measures the AC voltage between L1C &L2C.
supply (L1C, L2C)	light up	Servo drive fault	Contact the agent or customer service
	Panel display "Er.xx"	Refer to 7.2 Handlin	g of faults and warnings during operation
	After removing the faul	t, the servo drive pane	el should display "rdy"
Servo drive enable signal is valid(S-ON is ON)	The axis of servo motor is in a free running state	Servo enable signal is invalid	Check whether group P06 is set the servo enable signal (DI function 1: S-ON). If it is, check whether the corresponding DI terminal logic is valid. If it is invalid, please make it valid. Refer to Group P06 DI/DO configuration If group P06 parameters have set the servo enable signal, and the corresponding terminal logic is valid, but the panel still displays "rdy", check whether the DI terminal wiring is correct, please refer to 4 Wiring
		Control mode	Check whether the parameter P00-01 is set
	Development of the second	error	correctly
	Panel display Er.xx	1	g of faults and warnings during operation
	After troubleshooting, t	ne servo arive panei s	
Input speed instruction	The motor does not rotate	U0-03 (input instruction pulse number) always displays 0	 Al wiring error When selecting analog input signal, make sure that the connection of analog input terminal is correct. Refer to 4 Wiring. Not input torque instruction ① When selecting analog input signal, please confirm the Al parameters of group P05 is set correct, and then check the analog input voltage signal. It could be observed by



			oscilloscope or read by monitoring U0-21	
			,	
			and U0-22.	
			② When the internal speed instruction is	
			given, please confirm P01-08 (torque	
			instruction keyboard set value) is 0.	
	After troubleshooting, the servo motor should be able		d be able to rotate normally	
The second second second	Unstable low speed	Unreasonable gain	Please adjust the gain.	
The motor does	Offstable low speed	setting	Flease adjust the gain.	
not rotate smoothly at low	The motor shaft	Load inertia ratio	After the inertia recognition is complete,	
	vibrates left and right	is too large	performs gain adjustment.	
speed	After troubleshooting, the servo motor should be able to rotate normally			

Note: VD2F does not support monitoring U0-21 and U0-22.

7.2 Faults and warnings handling during operation

7.2.1 Overview

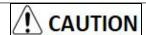
The faults and warnings of Wecon VD2 series servo drives are graded according to their severity, which can be divided into four grades: Category 1, Category 2, Category 3, Category 4. Severity level: Category 1> Category 2> Category 3 > Category 4, the specific classifications are as follows:

Category 1: faults cannot be cleared;

Category 2: faults are clearable; Category 3: faults are clearable; Category 4: warnings are clearable.

Among them, "clearable" means that the panel stops the fault display state by giving a "clear signal". The specific operations are as follows:

- ① Set the function code P10-03=1 (fault clearing) or use DI function 02 (02-A-CLR, fault and warning clearing) and set it to logic valid, which can stop the fault display on the panel.
- 2 The clearing method of category 2 and category 3 clearable faults: first turn off the servo enable signal (set S-ON to OFF), then set P10-03=1 or use DI function 02.
- (3) The clearing method of category 4 of clearable warnings: set P10-03=1 or use DI function 02.



For some faults and warnings, you must change the settings to eliminate the causes before they can be cleared, but clearing does not mean that the changes take effect. For the changes that need to be re-powered to take effect, the power must be re-powered. For the changes that need to be stopped to take effect, the servo enable must be turned off. After the change takes effect, the servo drive can operate normally.

Associated function codes

Function Code	Name	Setting method	Effective time	Default value	Range	Definition	Unit
P10-03	Fault clearing	Operation setting	immediately Effective	0	0 to 1	0: No operation 1: For clearable faults, after the cause of fault is removed, and write 1 to the function code, the drive will stop the fault display and enter the Rdy (or RUN) state again. Note: If the servo S-ON is valid, when the fault is removed and	-



	cleared, the servo will directly enter the Run state. When performing fault clearing actions, be sure to stop sending control instructions such as pulses to	
	ensure personal safety.	

Associated function number:

Code	Name	Function name	Function
2	2 A-CLR Fault and warning clearing	DI port logic is invalid, no reset faults and warnings	
	A-CLN	rault and warning clearing	DI port logic is valid, reset faults and warnings

VD2 series servo drives have a fault recording function, which could record the last 5 faults and the last 5 warning names and the status parameters of servo drive when the fault or warning occurs. After the fault or warning is cleared, the fault record will still save the fault and warning. The current fault code could be viewed through the monitoring parameter U1-01, and the current warning code could be viewed through U1-02. The monitoring U1-16 to U1-25 could display the last 5 fault codes and warning codes. Please refer to Group U1 Warning monitoring.

7.2.2 Fault and warning code table

The first category (category 1 for short) The fault could not be cleared

Category	Error name	Cause of fault	Fault code	Troubleshooting
Category 1	Parameter destruction			The hardware interface could not read and write parameters, please contact the manufacturer to confirm whether the hardware is damaged.
Category 1	Parameter storage error	Exceptions such as the version, total number, range, and validation failure of internal parameter storage. Possible reasons are: The drive has undergone a software upgrade In the process of parameter storage, an instantaneous power failure occurs Frequent writing of parameters	Er.02	Check whether the program has been updated. If the parameter storage is abnormal due to the updated program, please update the parameters by restoring the factory default parameters and power on again. Re-power on and reset the parameters after restoring the factory default settings; Confirm whether the host computer writes parameters frequently, and modify the corresponding parameter writing method;
Category 1	ADC reference source faults	The internal analog reference source of the drive is not accurate	Er.03	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	AD current sampling conversion error	sampling Current sampling zero drift or		Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	FPGA communication faults abnormal		Er.05	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.



		170001	1 1 1 2 2 01	A series servo Drives Manual (Lite v 1.1)
Category 1	The FPGA program version is wrong	The FPGA program version is wrong	Er.06	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	Clock abnormal	The internal clock of the drive is disturbed or abnormal	Er.07	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	ADC conversion undone	ADC conversion is not complete	Er.60	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	Internal software Fault	Torque loop error	Er.61	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	Internal software Fault	Speed loop error	Er.62	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	Internal software Fault	Illegal instruction	Er.63	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	Internal software Fault	Internal RAM parameter destruction	Er.64	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	Internal software Fault	Internal function code parameter destruction	Er.65	Please power on again to determine whether the fault is eliminated; if there is still an abnormality, please contact the manufacturer.
Category 1	Motor model error	Incorrect motor model	Er.26	Check whether the function code motor model setting is correct
Category 1	Encoder Z pulse lost	No Z pulse signal appears when the motor rotates more than one turn. The possible reasons are: Wrong motor model The motor encoder is disturbed or damaged;	Er.28	Check whether the motor model matches the drive model. Replace the motor and power on again.
Category 1	Incremental encoder AB count is not equal to encoder line number*4	Incremental encoder AB count is not equal to encoder line number*4. The possible reasons are: The motor model is wrong; Hand interference or damage to the motor encoder;	Er.29	Check whether the motor model matches the drive model. Replace the motor model that matches the drive.
Category 1	Encoder UVW signal error	Motor encoder UVW signal error	Er.30	Check whether the motor model matches the drive model Replace the motor model that matches the drive. Replace encoder line



Category	Exceeds motor	Exceeding the maximum speed threshold of function code P1-10. Possible reasons are: Wrong U/V/W phase		Please check whether the motor power line is correctly wired;
1	maximum speed	sequence of motor power line Wrong t motor model Wrong transfer wiring of motor power line Wrong wiring of motor encoder	Er.32	is correct; Use the correct power line and encoder line transfer wiring;
Category 1	Overcurrent	The drive detects that the power device has overcurrent, the possible situations are: The motor power lines U, V, W are short-circuited to the ground Short circuit between the motor power lines U, V, W The motor power lines U, V, W have poor contact The internal damage of motor The encoder cable is aging and loose Excessive fluctuation of control power supply.	Er.20	Please check whether the wiring of the motor power line is correct Whether the wiring of the motor power line is loose or short-circuited Replace the motor power line transfer line Replace the motor Replace the encoder transfer line If the above methods still cannot eliminate the fault, please contact the manufacturer.
Category 1	Braking resistor turns on abnormally	The braking resistor bleeder is turned on, but no feedback signal is detected. The possible reasons are: The braking resistor failed to open; Braking resistor feedback detection faults;	Er.24	The circuit of the brake release part may be damaged, please contact the manufacturer



The 2nd category (category 2 for short) clearable faults

Category	Error name	Cause of fault	Fault code	Troubleshooting
Category 2	Main power supply overvoltage	The drive detects that the bus voltage is too high. The possible reasons are: Check whether the main power input voltage is normal. 220V drive power supply voltage range: -10% to +10% (198V to 242V) 380V drive power supply voltage range: -10% to +10% (342V to 418V) The resistance of the braking resistor is too large, causing the braking energy can not be absorbed in time. The load inertia is large and the motor accelerates and decelerates too fast, and the maximum braking energy exceeds the absorbable value. The bus voltage detection deviation is too large.	Er.22	Check whether the mains input voltage is too high. Check whether the resistance of the braking resistor is reasonable. Extend the acceleration and deceleration time and choose a braking resistor with a lower resistance.
Category 2	Encoder disconnection	Encoder disconnection	Er.27	 Check whether the wiring of the motor encoder wire is loose. If it is, please tighten it. Replace the encoder cable, and then power on again.
Category 2	Power line disconnection	The motor power line is loose or disconnected	Er.31	Check whether the wiring of motor power line is loose, if it is loose, please tighten it. Replace motor power line transfer cable, and then power on again.

The 3rd Category (category 3 for short) clearable faults

Category	Error name	Cause of fault	Fault code	Troubleshooting
Category 3	Main power supply undervoltage	The bus voltage of the drive is lower than the limit value: 220V drive: normal bus voltage 310V, undervoltage threshold 200V 380V drive: normal bus voltage 540V, undervoltage threshold 400V The possible causes of main power supply undervoltage are: The main power supply is not connected. The input voltage is low, or the voltage drops. The internal main power relay is damaged.	Er.21	Check whether the drive input voltage is low. If it is, please increase the voltage or wait for the power supply to be normal, and then power on again to see if the fault is cleared. Check the input power voltage of drive to see if the voltage drops due to the change of the power load.
Category 3	Braking resistor is not connected	 When using the internal braking resistor, the shorting cap between C and D is disconnected. When using an external braking resistor, the resistor is not connected. 	Er.23	 If using an internal braking resistor, please confirm whether the short-circuit jumper contact between C/D is in normal. If you use an external braking resistor, please make sure that



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	Dun liin	The braking resistor status detection circuit is abnormal.		the external braking resistor is reliably connected. If you use an external braking resistor, please confirm whether the resistance of the braking resistor is reasonable. If the above methods still cannot eliminate the fault, please contact the manufacturer.
Category 3	Braking resistor resistance is too large	The braking resistor has been turned on, but the actual bus voltage is still rising. Braking resistor resistance may be too large	Er.25	Please confirm whether the resistance of the braking resistor is reasonable.
Category 3	Power module is over temperature	The temperature of the power module exceeds the normal value. The possible reasons are: The cooling fan is faulty, resulting in abnormal The ambient temperature is too high. The installation of the drive is unreasonable, and the interval is too small, resulting in abnormal heat dissipation.	Er.33	Confirm whether the cooling fan is operating normally. If it is not normal, please replace the drive. Improve the ambient temperature. Install the servo drive according to the installation standard.
Category 3	Motor overload protection	The drive detects that the motor is running overloaded. The possible reasons are: The load is too large, and the motor works in a state that exceeds the rated torque for a long time. The load inertia is relatively large and the acceleration and deceleration are frequently performed at the same time. The speed loop and position loop gain parameter settings are unreasonable. The motor is blocked. Servo drive faults	Er.34	Check whether the load of the motor is too large. If the load is too large, replace the motor and drive with a larger power. Increase the acceleration and deceleration time. Use the host computer software to observe the actual torque, and observe whether there is obvious speed overshoot. Adjust the appropriate loop gain parameters; Check the mechanical connection and troubleshoot. Replace servo drive.
Category 3	Electronic gear ratio exceeds limit	In the electronic gear ratio setting, the numerator/denominator ratio is less than the lower limit or greater than the upper limit; The electronic gear ratio setting range is as follows: 2500 line incremental encoder, the electronic gear ratio range is 0.01 to 100. For a 17-bit encoder, the electronic gear ratio range is 0.001 to 500. For a 23-bit encoder, the electronic gear ratio range is 0.001 to 32000.	Er.35	Check whether the electronic gear numerator and denominator setting values of function codes P00-17 to P00-20 meets the conditions: the numerator/denominator is within the range, and then power on again after modification.



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Category 3	Position deviation is too large	The deviation of the current position pulse exceeds the setting value of P00-25 position deviation limit. The possible reasons for are: The motor U/V/W wire is not connected or disconnected. The phase sequence of the U/V/W wires of the motor is connected incorrectly. The motor load is too large, or the motor is blocked. The drive gain setting is unreasonable. Position instruction equivalent speed changes too fast.	Er.36	Check whether the wiring of the motor power line U/V/W is normal. Check the load condition of the motor. If the load is too large, please replace the drive and motor with higher power; if it is blocked, please check the machine. Set the gain parameters according to the method in the "Adjustment" chapter in the user manual. When the position instruction equivalent speed changes too much, the ramp time can be appropriately increased to reduce the speed change rate.
Category 3	Torque saturation abnormal	The torque reaches the maximum torque limit and exceeds the setting time of P01-19 function code. The possible reasons are: The load is too large, and the drive outputs with maximum torque, but it still cannot reach the target speed within the predetermined time. Whether the maximum forward torque limit and the maximum reverse torque limit are set too small. The motor is blocked. P01-19 torque limit time is set too short. The motor U/V/W line phase sequence is wrong.	Er.37	Confirm whether the load is too large. According to the actual application, modify the forward torque limit and the maximum reverse torque limit to appropriate values. Check whether the machine is blocked. Confirm whether the setting of the function code P01-19 is reasonable. Confirm whether the motor U/V/W line phase sequence is correct.
Category 3	Main circuit electricity is lack of phase	When the power of the three-phase drive is greater than 2.3kw, the main circuit power supply is connected to single-phase, and this fault will be reported.	Er.38	 Whether the drive of three-phase specification is running under single-phase power supply. Check whether the main circuit input L1, L2, L3 wiring is good. The three-phase power supply is unbalanced or the three-phase voltage is too low.
Category 3	Emergency stop	The drive received an emergency stop instruction	Er.39	 Check whether it is a man-made emergency shutdown protection, if so, wait for other system faults to be removed and then power on again. If it is triggered by mistake, please check whether the wiring and function configuration of the DI terminal are normal.



Category 3	Encoder battery failure	During power failure, the multi-turn absolute value motor is not connected to the battery. The encoder battery voltage is too low, less than 3V.	Er.40	Replace with a new encoder battery
Category 3	Motor (encoder) over temperature	The motor encoder detects that the temperature exceeds 90 degrees Celsius.	Er.41	Check whether the motor is overloaded
Category 3	Encoder write faults	The encoder write operation does not respond normally	Er.42	Check whether the encoder and wiring are normal

The 4th category (category 4 for short) clearable warnings

Category	Error name	Cause of fault	Fault code	Troubleshooting
Category 4	Overspeed alarm	The speed exceeds the alarm limit value	A-81	Check whether the setting value of function code P01-11 is too small, and then check whether the speed setting is too high.
Category 4	Overload	Motor overload warning	A-82	Check whether the load the motor is too large. If it is, replace the motor and drive with a larger power.
Category 4	Braking resistor is over temperature or overloaded	 When the braking resistor is selected as the internal braking resistor, it means over temperature. When the braking resistor is externally connected, it means overload. 	A-83	 Please confirm whether the load inertia is too large. Please confirm whether it starts and stops frequently, and whether the speed is too high. Please check whether the actual resistance value is greater than the set value.
Category 4	Parameter modification that needs to be powered on again	Modified the parameters that need to be re-powered on to take effect	A-84	Re-power on or clear the alarm
Category 4	Receive position pulse when servo is OFF	Servo received pulse instruction in non-SON state or non-position mode	A-85	Please check the control signal timing of the host device, the servo is stopped or the pulse is still being sent in the non-position mode.
Category 4	Input pulse frequency is too high	The equivalent speed of the input frequency of the instruction pulse is too large	A-86	Check whether the setting of the pulse input frequency and the instruction pulse number of one turn of the motor (P00-16) or the electronic gear ratio (P00-17 to P00-20) is reasonable.
Category 4	Main circuit momentary power off	The main circuit input voltage is momentarily too low	A-88	Check whether the mains input has voltage, and then power on again or clear the alarm; if the mains is normal and the alarm still exists, please contact the manufacturer.
Category 4	DI port configuration is duplicate	Different DI ports are set to the same DI function	A-89	Note: Check DI channel function selection: DI_1 channel function selection (P06-02) to DI_8 channel function selection (P06-23)in function code "DIDO configuration", and check whether the 8 DI channel function selections are duplicated. If yes, close



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				the unnecessary channels, and then power on again.
Category 4	DO port configuration is duplicate	Different DO ports are set to the same DO function	A-90	Check DO channel function selection: DO_1 channel function selection (P06-26) to DI_4 channel function selection (P06-32)in function code "DIDO configuration", and check whether the 4 DO channel function selections are duplicated. If yes, close the unnecessary channels, and then power on again.
Category 4	Parameter modification is too frequent	The frequency of communication to modify function code parameters is too frequent	A-91	Confirm whether the host computer writes parameters frequently, and modify the corresponding parameter writing method.
Category 4	low encoder battery voltage Warning of	Encoder battery voltage is less than 3.1V	A-92	Replace with a new encoder battery
Category 4	Encoder read and write check abnormal and frequency is too high	Encoder communication has timeout or CRC check error	A-93	Check whether the encoder wiring is disturbed

The "Note" section describes how to handle the warning of "Duplicate DI port configuration" of VD2-0XXSA1G. Due to the number of DI ports, the function codes of VD2F-0xxSA1P are different. Please refer to Group P06 DI/DO configuration



8. Modbus register address

Group P00 Basic settings

Function			777	- 6 1			Modbus ac	ldress	
code	Name	Setting method	Effective time	Default	Range	Unit	Hexadecimal	Decimal	Data type
<u>P00-01</u>	Control mode	Shutdown setting	Effective immediately	1	1 to 6	-	0x0001	1	16-bit
<u>P00-04</u>	Rotation direction	Shutdown setting	Effective immediately	0	0 to 1	-	0x0004	4	16-bit
P00-05	Servo OFF shutdown mode	Shutdown setting	Effective immediately	0	0 to 1	-	0x0005	5	16-bit
<u>P00-09</u>	Braking resistance setting	Operation setting	Effective immediately	0	0 to 3	Ω	0x0009	9	16-bit
<u>P00-10</u>	External braking resistor resistance	Operation setting	Effective immediately	50	0 to 65535	W	0x000A	10	16-bit
P00-11	External braking resistor power	Operation setting	Effective immediately	100	0 to 65535	-	0x000B	11	16-bit
P00-12	Position pulse type selection	Operation setting	Power-on again	0	0 to 5	kHz	0x000C	12	16-bit
P00-13	Maximum position pulse frequency	Shutdown setting	Effective immediately	300	1 to 500	-	0x000D	13	16-bit
<u>P00-14</u>	Position pulse anti-interference grade	Operation setting	Power-on again	2	0 to 9	Instruction pulse unit	0x000E	14	16-bit
<u>P00-16</u>	Number of instruction pulses when the motor rotates one circle	Shutdown setting	Effective immediately	10000	0 to 131072	-	0x0010	16	32-bit
P00-17	Electronic gear 1 numerator	Operation setting	Effective immediately	1	1 to 4294967294	-	0x0012	18	32-bit
P00-18	Electronic gear 1 denominator	Operation setting	Effective immediately	1	1 to 4294967294	-	0x0014	20	32-bit
P00-19	Electronic Gear 2 nominator	Operation setting	Effective immediately	1	1 to 4294967294	-	0x0016	22	32-bit
P00-20	Electronic gear 2 denominator	Operation setting	Effective immediately	1	1 to 4294967294	-	0x0018	24	32-bit
<u>P00-21</u> ☆	Pulse frequency division output direction	Operation setting	Power-on again	0	0 to 1	-	0x001A	26	16-bit
<u>P00-22</u> ☆	Number of output pulses when the motor rotates one circle	Operation setting	Power-on again	2500	0 to 2500	Pulse unit	0x001B	27	16-bit
P00-23	Z pulse output OZ polarity	Operation setting	Power-on again	0	0 to 1	-	0x001C	28	16-bit



<u>P00-25</u>	Position deviation limit	Shutdown setting	Effective immediately	60000	0 to 2147483646	Equivalent pulse unit	0x001E	30	32-bit
P00-27☆	Pulse output frequency division numerator	Operation setting	Power-on again	1	1 to 2500	-	0x0021	33	16-bit
<u>P00-28</u> ☆	Pulse output frequency division denominator	Operation setting	Power-on again	1	1 to 2500	-	0x0022	34	16-bit
<u>P00-29</u>	Number of equivalent position unit in a circle	Shutdown setting	Effective immediately	10000	0 to 131072	-	0x0023	35	32-bit
<u>P00-30</u>	Shield multi-turn absolute encoder battery fault	Operation setting	Power-on again	0	0 to 1		0x0025	37	16-bit

[&]quot;☆" indicates that the VD2F servo drive does not support this function code.

Group P01 Control parameter

Function	Name	Cassing a season of	Effective time	Defects	Dawas	11	Modbus address		Data tuna
code	Name	Setting method	Effective time	Default	Range	Unit	Hexadecimal	Decimal	Data type
<u>P01-01</u>	Speed instruction source	Shutdown setting	Effective immediately	0	0 to 1	-	0x0101	257	16-bit
<u>P01-02</u>	Internal speed instruction 0	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x0102	258	16-bit
P01-03	Acceleration time	Operation setting	Effective immediately	50	0 to 65535	ms	0x0103	259	16-bit
<u>P01-04</u>	Deceleration time	Operation setting	Effective immediately	50	0 to 65535	ms	0x0104	260	16-bit
<u>P01-06</u>	Position instruction source	Operation setting	Effective immediately	0	0 to 1	ı	0x0106	262	16-bit
<u>P01-07</u>	Torque instruction source	Shutdown setting	Effective immediately	0	0 to 1	ı	0x0107	263	16-bit
<u>P01-08</u>	Torque instruction keyboard setting value	Operation setting	Effective immediately	0	-3000 to 3000	0.1%	0x0108	264	16-bit
<u>P01-09</u>	Source of speed limit in torque mode	Shutdown setting	Effective immediately	0	0 to 1	ı	0x0109	265	16-bit
<u>P01-10</u>	Maximum speed threshold	Operation setting	Effective immediately	3600	0 to 5000	rpm	0x010A	266	16-bit
P01-11	Warning speed threshold	Operation setting	Effective immediately	3300	0 to 5000	rpm	0x010B	267	16-bit
P01-12	Forward speed threshold	Operation setting	Effective immediately	3000	0 to 5000	rpm	0x010C	268	16-bit
<u>P01-13</u>	Reverse speed threshold	Operation setting	Effective immediately	3000	0 to 5000	rpm	0x010D	269	16-bit



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P01-14	Torque limit source	Shutdown setting	Effective immediately	0	0 to 1	-	0x010E	270	16-bit
P01-15	Forward torque limit	Operation setting	Effective immediately	3000	0 to 3000	0.1%	0x010F	271	16-bit
<u>P01-16</u>	Reverse torque limit	Operation setting	Effective immediately	3000	0 to 3000	0.1%	0x0110	272	16-bit
<u>P01-17</u>	Forward torque limit in torque mode	Operation setting	Effective immediately	3000	0 to 5000	rpm	0x0111	273	16-bit
P01-18	Reverse torque limit in torque mode	Operation setting	Effective immediately	3000	0 to 5000	rpm	0x0112	274	16-bit
P01-19	Torque saturation timeout period	Operation setting	Effective immediately	1000	0 to 65535	ms	0x0113	275	16-bit
P01-21	Zero-speed clamp function selection	Operation setting	Effective immediately	3000	0 to 5000	rpm	0x0112	274	16-bit
P01-22	Zero speed clamp speed threshold	Operation setting	Effective immediately	1000	0 to 65535	ms	0x0113	275	16-bit
P01-23	Internal speed instruction 1	Operation setting	Effective immediately	0	0 to 3	-	0x0115	277	16-bit
P01-24	Internal speed instruction 2	Operation setting	Effective immediately	20	0 to 1000	rpm	0x0116	278	16-bit
P01-25	Internal speed instruction 3	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x0117	279	16-bit
P01-26	Internal speed instruction 4	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x0118	280	16-bit
<u>P01-27</u>	Internal speed instruction 5	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x0119	281	16-bit
P01-28	Internal speed instruction 6	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x011A	282	16-bit
P01-29	Internal speed instruction 7	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x011B	283	16-bit
<u>P01-30</u>	Delay from brake output ON to instruction reception	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x011C	284	16-bit
<u>P01-31</u>	In the static state, delay from the brake output is OFF to the motor is not energized.	Operation setting	Effective immediately	0	-3000 to 3000	rpm	0x011D	285	16-bit
<u>P01-32</u>	Rotation state, when the brake output is OFF, the speed threshold	Operation setting	Effective immediately	250	0 to 500	ms	0x011E	286	16-bit
<u>P01-33</u>	Rotation status, delay from servo enable OFF to brake output OFF	Operation setting	Effective immediately	150	1 to 1000	ms	0x011F	287	16-bit



Group P02 Gain adjustment

Function				D ()			Modbus ad	ddress	
code	Name	Setting method	Effective time	Default	Range	Unit	Hexadecimal	Decimal	Data type
P02-01	1st position loop gain	Operation setting	Effective immediately	400	0 to 6200	0.1Hz	0x0201	513	16-bit
<u>P02-02</u>	1st speed loop gain	Operation setting	Effective immediately	65	0 to 35000	0.1Hz	0x0202	514	16-bit
<u>P02-03</u>	1st speed loop integral time constant	Operation setting	Effective immediately	1000	100 to 65535	0.1ms	0x0203	515	16-bit
P02-04	2nd position loop gain	Operation setting	Effective immediately	35	0 to 6200	0.1Hz	0x0204	516	16-bit
P02-05	2nd speed loop gain	Operation setting	Effective immediately	65	0 to 35000	0.1Hz	0x0205	517	16-bit
P02-06	2nd speed loop integral time constant	Operation setting	Effective immediately	1000	0 to 65535	0.1ms	0x0206	518	16-bit
<u>P02-07</u>	2nd gain switching mode	Operation setting	Effective immediately	0	0 to 3	-	0x0207	519	16-bit
P02-09	Speed feedforward gain	Operation setting	Effective immediately	0	0 to 1000	0.1%	0x0209	521	16-bit
P02-10	Speed feedforward filter time constant	Operation setting	Effective immediately	50	0 to 10000	0.01ms	0x020A	522	16-bit
P02-11	Torque feedforward gain	Operation setting	Effective immediately	0	0 to 2000	0.1%	0x020B	523	16-bit
P02-12	Torque feedforward filter time constant	Operation setting	Effective immediately	50	0 to 10000	0.01ms	0x020C	524	16-bit

Group P03 Self-adjustment parameters

Function	Name	Setting method	Effective time De	Default	lt Range	11	Modbus ac	ldress	Data toma
code	Name	Setting method	Ептестіче тіте	Detault	Kange	Unit	Hexadecimal	Decimal	Data type
P03-01	Load inertia ratio	Operation setting	Effective immediately	300	100 to 10000	0.01	0x0301	769	16-bit
<u>P03-02</u>	Load rigidity grade selection	Operation setting	Effective immediately	14	0 to 31	-	0x0302	770	16-bit
<u>P03-03</u>	Self-adjusting mode selection	Operation setting	Effective immediately	0	0 to 2	-	0x0303	771	16-bit
<u>P03-04</u>	Online inertia recognition sensitivity	Operation setting	Effective immediately	0	0 to 2	=	0x0304	772	16-bit



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<u>P03-05</u>	Number of cycles of inertia identification	Shutdown setting	Effective immediately	2	1 to 20	Circle	0x0305	773	16-bit
<u>P03-06</u>	Maximum speed of inertia identification	Shutdown setting	Effective immediately	1000	300 to 2000	rpm	0x0306	774	16-bit
<u>P03-07</u>	Parameter identification of rotation direction	Shutdown setting	Effective immediately	0	0 to 2	-	0x0307	775	16-bit
<u>P03-08</u>	Parameter identification waiting time	Shutdown setting	Effective immediately	1000	300 to 10000	ms	0x0308	776	16-bit

Group P04 Vibration suppression

Function	Name	Catting mathed	Effective time	Default	Dongo	Unit	Modbus ad	ddress	Data tura
code	Name	Setting method	Effective time	Delault	Range	Onit	Hexadecimal	Decimal	Data type
<u>P04-01</u>	Pulse instruction filtering method	Shutdown setting	Effective immediately	0	0 to 1	-	0x0401	1025	16-bit
<u>P04-02</u>	Position instruction first-order low-pass filtering time constant	Shutdown setting	Effective immediately	0	0 to 1000	ms	0x0402	1026	16-bit
<u>P04-03</u>	Position instruction average filter time constant	Shutdown setting	Effective immediately	0	0 to 128	ms	0x0403	1027	16-bit
<u>P04-04</u>	Torque filter time constant	Operation setting	Effective immediately	50	10 to 2500	0.01ms	0x0404	1028	16-bit
P04-05	1st notch filter frequency	Operation setting	Effective immediately	300	250 to 5000	Hz	0x0405	1029	16-bit
P04-06	1st notch filter depth	Operation setting	Effective immediately	100	0 to 100	-	0x0406	1030	16-bit
<u>P04-07</u>	1st notch filter width	Operation setting	Effective immediately	4	0 to 12	-	0x0407	1031	16-bit
<u>P04-08</u>	2nd notch filter frequency	Operation setting	Effective immediately	500	250 to 5000	Hz	0x0408	1032	16-bit
<u>P04-09</u>	2nd notch filter depth	Operation setting	Effective immediately	100	0 to 100	-	0x0409	1033	16-bit
<u>P04-10</u>	2nd notch filter width	Operation setting	Effective immediately	4	0 to 12	-	0x040A	1034	16-bit



Group P05 Signal input and output

Function	News	Calling walked	Effective time	D. C. J.	D	11.25	Modbus ac	ddress	
code	Name	Setting method	Effective time	Default	Range	Unit	Hexadecimal	Decimal	Data type
<u>P05-01</u> ☆	AI_1 input bias	Operation setting	Effective immediately	0	-5000 to 5000	mV	0x0501	1281	16-bit
<u>P05-02</u> ☆	AI_1 input filter time constant	Operation setting	Effective immediately	200	0 to 60000	0.01ms	0x0502	1282	16-bit
<u>P05-03</u> ☆	AI_1 dead zone	Operation setting	Effective immediately	20	0 to 1000	mV	0x0503	1283	16-bit
<u>P05-04</u> ☆	AI_1 zero drift	Operation setting	Effective immediately	0	-500 to 500	mV	0x0504	1284	16-bit
<u>P05-05</u> ☆	AI_2 input bias	Operation setting	Effective immediately	0	-5000 to 5000	mV	0x0505	1285	16-bit
<u>P05-06</u> ☆	AI_2 input filter time constant	Operation setting	Effective immediately	200	0 to 60000	0.01ms	0x0506	1286	16-bit
<u>P05-07</u> ☆	AI_2 dead zone	Operation setting	Effective immediately	20	0 to 500	mV	0x0507	1287	16-bit
<u>P05-08</u> ☆	AI_2 zero drift	Operation setting	Effective immediately	0	-500 to 500	mV	0x0508	1288	16-bit
<u>P05-09</u> ☆	Analog quantity 10V for speed value	Shutdown setting	Effective immediately	3000	100 to 4500	rpm	0x0509	1289	16-bit
<u>P05-10</u> ☆	Analog quantity 10V for torque value	Shutdown setting	Effective immediately	1000	0 to 3000	0.1%	0x050A	1290	16-bit
<u>P05-11</u>	Positioning is completed, positioning close condition setting	Operation setting	Effective immediately	0	0 to 3	-	0x050B	1291	16-bit
P05-12	Positioning completion threshold	Operation setting	Effective immediately	800	1 to 65535	Equivalent pulse unit	0x050C	1292	16-bit
<u>P05-13</u>	Positioning approach threshold	Operation setting	Effective immediately	5000	1 to 65535	Equivalent pulse unit	0x050D	1293	16-bit

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P05-14	Position detection window time	Operation setting	Effective immediately	10	0 to 20000	ms	0x050E	1294	16-bit
<u>P05-15</u>	Positioning signal hold time	Operation setting	Effective immediately	100	0 to 20000	ms	0x050F	1295	16-bit
<u>P05-16</u>	Rotation detection speed threshold	Operation setting	Effective immediately	20	0 to 1000	rpm	0x0510	1296	16-bit
P05-17	Speed consistent signal threshold	Operation setting	Effective immediately	10	0 to 100	rpm	0x0511	1297	16-bit
P05-18	Speed approach signal threshold	Operation setting	Effective immediately	100	10 to 6000	rpm	0x0512	1298	16-bit
<u>P05-19</u>	Zero speed output signal threshold	Operation setting	Effective immediately	10	0 to 6000	rpm	0x0513	1299	16-bit
<u>P05-20</u>	Torque arrival threshold	Operation setting	Effective immediately	100	0 to 300	%	0x0514	1300	16-bit
<u>P05-21</u>	Torque arrival hysteresis value	Operation setting	Effective immediately	10	0 to 20	%	0x0515	1301	16-bit

[&]quot; $\stackrel{\sim}{\sim}$ " indicates that the VD2F servo drive does not support this function code.

Group P06 DIDO configuration

Function	Nama	Catting weath ad	Tiffootive time	Defeult	Dance	Hall	Modbus ad	ddress	Data tura
code	Name	Setting method	Effective time	Default	Range	Unit	Hexadecimal	Decimal	Data type
<u>P06-02</u>	DI_1 channel function selection	Operation setting	Power-on again	1	0 to 32	-	0x0602	1538	16-bit
<u>P06-03</u>	DI_1 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x0603	1539	16-bit
<u>P06-04</u>	DI_1 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x0604	1540	16-bit
<u>P06-05</u>	DI_2 channel function selection	Operation setting	Power-on again	2	0 to 32	-	0x0605	1541	16-bit
<u>P06-06</u>	DI_2 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x0606	1542	16-bit
<u>P06-07</u>	DI_2 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x0607	1543	16-bit
P06-08	DI_3 channel function selection	Operation setting	Power-on again	3	0 to 32	-	0x0608	1544	16-bit
<u>P06-09</u>	DI_3 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x0609	1545	16-bit
<u>P06-10</u>	DI_3 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x060A	1546	16-bit
<u>P06-11</u>	DI_4 channel function selection	Operation setting	Power-on again	4	0 to 32	-	0x060B	1547	16-bit

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P06-12	DI_4 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x060C	1548	16-bit
<u>P06-13</u>	DI_4 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x060D	1549	16-bit
<u>P06-14</u> ☆	DI_5 channel function selection	Operation setting	Power-on again	7	0 to 32	-	0x060E	1550	16-bit
<u>P06-15</u> ☆	DI_5 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x060F	1551	16-bit
<u>P06-16</u> ☆	DI_5 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x0610	1552	16-bit
<u>P06-17</u> ☆	DI_6 channel function selection	Operation setting	Power-on again	11	0 to 32	-	0x0611	1553	16-bit
<u>P06-18</u> ☆	DI_6 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x0612	1554	16-bit
<u>P06-19</u> ☆	DI_6 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x0613	1555	16-bit
<u>P06-20</u> ☆	DI_7 channel function selection	Operation setting	Power-on again	0	0 to 32	-	0x0614	1556	16-bit
<u>P06-21</u> ☆	DI_7 channel logic selection	Operation setting	Power-on again	0	0 to 1	-	0x0615	1557	16-bit
<u>P06-22</u> ☆	DI_7 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x0616	1558	16-bit
<u>P06-23</u> ☆	DI_8 channel function selection	Operation setting	Power-on again	0	0 to 32	-	0x0617	1559	16-bit
<u>P06-24</u> ☆	DI_8 channel logic selection	Operation setting	Power-on again	0	0 to 1	-	0x0618	1560	16-bit
<u>P06-25</u> ☆	DI_8 input source selection	Operation setting	Effective immediately	0	0 to 1	-	0x0619	1561	16-bit
<u>P06-26</u>	DO_1 channel function selection	Operation setting	Effective immediately	132	128 to 148	-	0x061A	1562	16-bit
<u>P06-27</u>	DO_1 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x061B	1563	16-bit
<u>P06-28</u>	DO_2 channel function selection	Operation setting	Effective immediately	130	128 to 148	-	0x061C	1564	16-bit
P06-29	DO_2 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x061D	1565	16-bit
P06-30	DO_3 channel function selection	Operation setting	Effective immediately	129	128 to 148	-	0x061E	1566	16-bit
P06-31	DO_3 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x061F	1567	16-bit
P06-32	DO_4 channel function selection	Operation setting	Effective immediately	134	128 to 148	-	0x0620	1568	16-bit
<u>P06-33</u>	DO_4 channel logic selection	Operation setting	Effective immediately	0	0 to 1	-	0x0621	1569	16-bit

[&]quot;☆" indicates that the VD2F servo drive does not support this function code.



Group P07 multi-segment position

Function					_		Modbus ad	ddress	
code	Name	Setting method	Effective time	Default	Range	Unit	Hexadecimal	Decimal	Data type
<u>P07-01</u>	multi-segment position operation mode	Shutdown setting	Effective immediately	0	0 to 2	-	0x0701	1793	16-bit
<u>P07-02</u>	Starting position number	Shutdown setting	Effective immediately	1	1 to 16	-	0x0702	1794	16-bit
<u>P07-03</u>	End position number	Shutdown setting	Effective immediately	1	1 to 16	-	0x0703	1795	16-bit
<u>P07-04</u>	Margin processing method	Shutdown setting	Effective immediately	0	0 to 1	-	0x0704	1796	16-bit
<u>P07-05</u>	Displacement instruction type	Shutdown setting	Effective immediately	0	0 to 1	-	0x0705	1797	16-bit
<u>P07-06</u>	Waiting time unit	Shutdown setting	Effective immediately	0	0 to 1	-	0x0706	1798	16-bit
P07-07	Reserved	Shutdown setting	Effective immediately	0	0 to 63355	-	0x0707	1799	16-bit
P07-08	Reserved	Shutdown setting	Effective immediately	0	0 to 0	-	0x0708	1800	16-bit
<u>P07-09</u>	The 1st position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0709	1801	32-bit
<u>P07-10</u>	Maximum speed of the 1st position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x070B	1803	16-bit
<u>P07-11</u>	Acceleration and deceleration time of the 1st position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x070C	1804	16-bit
<u>P07-12</u>	Waiting time after completion of the 1st position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x070D	1805	16-bit
<u>P07-13</u>	The 2nd position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x070E	1806	32-bit
<u>P07-14</u>	Maximum speed of the 2nd position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0710	1808	16-bit
<u>P07-15</u>	Acceleration and deceleration time of the 2nd position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0711	1809	16-bit
<u>P07-16</u>	Waiting time after completion of the 2nd position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0712	1810	16-bit



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<u>P07-17</u>	The 3rd position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0713	1811	32-bit
<u>P07-18</u>	Maximum speed of the 3rd position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0715	1813	16-bit
<u>P07-19</u>	Acceleration and deceleration time of the 3rd position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0716	1814	16-bit
<u>P07-20</u>	Waiting time after completion of the 3rd position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0717	1815	16-bit
<u>P07-21</u>	The 4th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0718	1816	32-bit
<u>P07-22</u>	Maximum speed of the 4th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x071A	1818	16-bit
<u>P07-23</u>	Acceleration and deceleration time of the 4th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x071B	1819	16-bit
<u>P07-24</u>	Waiting time after completion of the 4th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x071C	1820	16-bit
<u>P07-25</u>	The 5th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x071D	1821	32-bit
<u>P07-26</u>	Maximum speed of the 5th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x071F	1823	16-bit
<u>P07-27</u>	Acceleration and deceleration time of the 5th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0720	1824	16-bit
<u>P07-28</u>	Waiting time after completion of the 5th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0721	1825	16-bit
<u>P07-29</u>	The 6th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0722	1826	32-bit
<u>P07-30</u>	Maximum speed of the 6th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0724	1828	16-bit
<u>P07-31</u>	Acceleration and deceleration time of the 6th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0725	1829	16-bit
<u>P07-32</u>	Waiting time after completion of the 6th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0726	1830	16-bit



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<u>P07-33</u>	The 7th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0727	1831	32-bit
<u>P07-34</u>	Maximum speed of the 7th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0729	1833	16-bit
<u>P07-35</u>	Acceleration and deceleration time of the 7th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x072A	1834	16-bit
<u>P07-36</u>	Waiting time after completion of the 7th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x072B	1835	16-bit
<u>P07-37</u>	The 8th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x072C	1836	32-bit
<u>P07-38</u>	Maximum speed of the 8th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x072E	1838	16-bit
<u>P07-39</u>	Acceleration and deceleration time of the 8th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x072F	1839	16-bit
<u>P07-40</u>	Waiting time after completion of the 8th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0730	1840	16-bit
<u>P07-41</u>	The 9th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0731	1841	32-bit
<u>P07-42</u>	Maximum speed of the 9th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0733	1843	16-bit
<u>P07-43</u>	Acceleration and deceleration time of the 9th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0734	1844	16-bit
<u>P07-44</u>	Waiting time after completion of the 9th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0735	1845	16-bit
<u>P07-45</u>	The 10th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0736	1846	32-bit
<u>P07-46</u>	Maximum speed of the 10th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0738	1848	16-bit
<u>P07-47</u>	Acceleration and deceleration time of the 10th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0739	1849	16-bit
<u>P07-48</u>	Waiting time after completion of the 10th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x073A	1850	16-bit



<u>P07-49</u>	The 11th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x073B	1851	32-bit
<u>P07-50</u>	Maximum speed of the 11th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x073D	1853	16-bit
<u>P07-51</u>	Acceleration and deceleration time of the 11th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x073E	1854	16-bit
<u>P07-52</u>	Waiting time after completion of the 11th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x073F	1855	16-bit
<u>P07-53</u>	The 12th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0740	1856	32-bit
<u>P07-54</u>	Maximum speed of the 12th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0742	1858	16-bit
<u>P07-55</u>	Acceleration and deceleration time of the 12th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0743	1859	16-bit
<u>P07-56</u>	Waiting time after completion of the 12th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0744	1860	16-bit
<u>P07-57</u>	The 13th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0745	1861	32-bit
<u>P07-58</u>	Maximum speed of the 13th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0747	1863	16-bit
<u>P07-59</u>	Acceleration and deceleration time of the 13th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0748	1864	16-bit
<u>P07-60</u>	Waiting time after completion of the 13th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0749	1865	16-bit
<u>P07-61</u>	The 14th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x074A	1866	32-bit
<u>P07-62</u>	Maximum speed of the 14th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x074C	1868	16-bit
<u>P07-63</u>	Acceleration and deceleration time of the 14th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x074D	1869	16-bit
<u>P07-64</u>	Waiting time after completion of the 14th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x074E	1870	16-bit



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<u>P07-65</u>	The 15th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x074F	1871	32-bit
<u>P07-66</u>	Maximum speed of the 15th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0751	1873	16-bit
<u>P07-67</u>	Acceleration and deceleration time of the 15th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0752	1874	16-bit
<u>P07-68</u>	Waiting time after completion of the 15th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0753	1875	16-bit
<u>P07-69</u>	The 16th position displacement	Operation setting	Effective immediately	10000	-2147483647 to 2147483646	-	0x0754	1876	32-bit
<u>P07-70</u>	Maximum speed of the 16th position displacement	Operation setting	Effective immediately	100	1 to 5000	rpm	0x0756	1878	16-bit
<u>P07-71</u>	Acceleration and deceleration time of the 16th position displacement	Operation setting	Effective immediately	100	1 to 65535	ms	0x0757	1879	16-bit
<u>P07-72</u>	Waiting time after completion of the 16th position displacement	Operation setting	Effective immediately	100	1 to 65535	Set by P07-06	0x0758	1880	16-bit

Group P10 Accessibility

Function	Name :	Setting method Effective time	Default	Range	Unit	Modbus address		Data to the	
code		Setting method	Effective time	Detault	Kange	Onit	Hexadecimal	Decimal	Data type
P10-01	JOG speed	Operation setting	Effective immediately	100	0 to 3000	rpm	0x0A01	2561	16-bit
<u>P10-02</u>	Restore factory settings	Shutdown setting	Effective immediately	0	0 to 1	-	0x0A02	2562	16-bit
P10-03	Fault clearing	Operation setting	Effective immediately	0	0 to 1	-	0x0A03	2563	16-bit
P10-04	Motor overload protection time factor	Operation setting	Effective immediately	100	0 to 800	%	0x0A04	2564	16-bit
P10-05	Motor model	Operation setting	Power-on again	0	0 to 65535	-	0x0A05	2565	16-bit
<u>P10-06</u>	Multi-turn absolute encoder reset	Shutdown setting	Effective immediately	0	0 to 1	-	0x0A06	2566	16-bit



Group P12 Communication parameters

Function	Nama	Satting mathod	Effective time	Default	Pango	Unit	Modbus address		Data tuna
code	Name	Setting method	Ептестіче тіте	Detault	Range		Hexadecimal	Decimal	Data type
P12-01	Servo address	Operation setting	Effective immediately	1	1 to 247	-	0x0C01	3073	16-bit
<u>P12-02</u>	Baud rate	Operation setting	Effective immediately	2	0 to 5	-	0x0C02	3074	16-bit
<u>P12-03</u>	Serial data format	Operation setting	Effective immediately	0	0 to 3	-	0x0C03	3075	16-bit
<u>P12-04</u>	Modbus communication data is written into EEPROM	Operation setting	Effective immediately	0	0 to 1	-	0x0C04	3076	16-bit
P12-05	RS422/RS485 function selection	Operation setting	Effective immediately	0	0 to 1	-	0x0C05	3077	16-bit

Group P13 Virtual input terminal

Function	Maria	Calling walked	g method Effective time Default	Default Pange		11.25	Modbus address		Data tama
code	Name	Setting method	Effective time	Detault	Range	Unit	Hexadecimal	Decimal	Data type
<u>P13-01</u>	Virtual VDI_1 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D01	3329	16-bit
<u>P13-02</u>	Virtual VDI_2 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D02	3330	16-bit
<u>P13-03</u>	Virtual VDI_3 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D03	3331	16-bit
<u>P13-04</u>	Virtual VDI_4 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D04	3332	16-bit
<u>P13-05</u>	Virtual VDI_5 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D05	3333	16-bit
<u>P13-06</u>	Virtual VDI_6 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D06	3334	16-bit
<u>P13-07</u>	Virtual VDI_7 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D07	3335	16-bit
<u>P13-08</u>	Virtual VDI_8 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D08	3336	16-bit
<u>P13-11</u>	Virtual VDO_1 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D0B	3339	16-bit
<u>P13-12</u>	Virtual VDO_2 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D0C	3340	16-bit
<u>P13-13</u>	Virtual VDO_3 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D0D	3341	16-bit
<u>P13-14</u>	Virtual VDO_4 input value	Operation setting	Effective immediately	0	0 to 1	-	0x0D0E	3342	16-bit



Group U0 Monitoring parameters

Function				Modbus a	ddress	Data
code	Name	Category	Unit	Hexadecimal	Decimal	type
<u>U0-01</u>	Servo Status	Universal	-	0x1E01	7681	16-bit
<u>U0-02</u>	Servo motor speed	Universal	rpm	0x1E02	7682	16-bit
<u>U0-03</u>	Input speed instruction	Universal	rpm	0x1E03	7683	16-bit
<u>U0-04</u>	Corresponding speed of position instruction	Universal	rpm	0x1E04	7684	16-bit
<u>U0-05</u>	Pulse deviation	Universal	Equivalent pulse unit	0x1E05	7685	32-bit
U0-06	Reserved	Universal	-	0x1E07	7687	16-bit
U0-07	Reserved	Universal	-	0x1E08	7688	16-bit
<u>U0-08</u>	Input instruction pulse frequency	Universal	kHz	0x1E09	7689	16-bit
<u>U0-09</u>	Input instruction pulse number (lower 32 bits)	Universal	Instruction unit	0x1E0A	7690	32-bit
U0-10	Reserved	Universal	Instruction unit	0x1E0C	7692	16-bit
U0-11	Reserved	Universal	Instruction unit	0x1E0D	7693	32-bit
U0-12	Reserved	Universal	Instruction unit	0x1E0F	7695	16-bit
<u>U0-13</u>	Encoder cumulative position (lower 32 bits)	Universal	Encoder unit	0x1E10	7696	32-bit
U0-14	Reserved	Universal	Encoder unit	0x1E12	7698	16-bit
<u>U0-15</u>	Encoder cumulative position (high 32 bits)	Universal	Encoder unit	0x1E13	7699	32-bit
U0-16	Reserved	Universal	Encoder unit	0x1E15	7701	16-bit
<u>U0-17</u>	DI input signal status	Universal	-	0x1E16	7702	16-bit
U0-18	Reserved	Universal	-	0x1E17	7703	16-bit
<u>U0-19</u>	DO output signal status	Universal	-	0x1E18	7704	16-bit
<u>U0-20</u>	Real-time load inertia ratio	Universal	%	0x1E19	7705	16-bit
<u>U0-21</u>	Al1 input voltage value Reserved*	Universal	V	0x1E1A	7706	16-bit
<u>U0-22</u>	AI2 input voltage value Reserved*	Universal	V	0x1E1B	7707	16-bit
<u>U0-23</u>	Vibration Frequency	Universal	Hz	0x1E1C	7708	16-bit
<u>U0-24</u>	Vibration Amplitude	Universal	rpm	0x1E1D	7709	16-bit
<u>U0-25</u>	Forward torque limit value	Universal	%	0x1E1E	7710	16-bit
<u>U0-26</u>	Reverse torque limit value	Universal	%	0x1E1F	7711	16-bit



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<u>U0-27</u>	Forward speed limit value	Universal	rpm	0x1E20	7712	16-bit
<u>U0-28</u>	Reverse speed limit value	Universal	rpm	0x1E21	7713	16-bit
<u>U0-29</u>	Mechanical angle	Universal	o	0x1E22	7714	16-bit
<u>U0-30</u>	Electrical angle	Universal	o	0x1E23	7715	16-bit
<u>U0-31</u>	Bus voltage	Universal	V	0x1E24	7716	16-bit
<u>U0-32</u>	Radiator temperature	Universal	°C	0x1E25	7717	16-bit
<u>U0-33</u>	Instantaneous output power	Universal	W	0x1E26	7718	16-bit
<u>U0-34</u>	Average output power	Universal	W	0x1E27	7719	16-bit
<u>U0-35</u>	Total operation time (hour)	Universal	h	0x1E28	7720	16-bit
U0-36	Reserved	Universal	-	0x1E29	7721	16-bit
<u>U0-37</u>	Total operation time (minute)	Universal	min	0x1E2A	7722	16-bit
<u>U0-38</u>	Total operation time (second)	Universal	S	0x1E2B	7723	16-bit
<u>U0-39</u>	Load torque percentage	Universal	%	0x1E2C	7724	16-bit
<u>U0-40</u>	Current operation time (hour)	Universal	h	0x1E2D	7725	16-bit
U0-41	Reserved	-	-	0x1E2E	7726	16-bit
<u>U0-42</u>	Current operation time (minute)	Universal	min	0x1E2F	7727	16-bit
<u>U0-43</u>	Current operation time (second)	Universal	S	0x1E30	7728	16-bit
<u>U0-44</u>	Instantaneous braking resistor power	Universal	W	0x1E31	7729	16-bit
U0-45	Reserved	-	-	0x1E32	7730	16-bit
<u>U0-46</u>	Average braking resistor power	Universal	W	0x1E33	7731	16-bit
U0-47	Reserved	Universal	-	0x1E34	7732	16-bit
<u>U0-48</u>	Power-on times	Universal	Times	0x1E35	7733	16-bit
U0-49	Reserved	-	-	0x1E36	7734	16-bit
<u>U0-50</u>	Motor cumulative number of turns (low 32 bits)	Universal	Circle	0x1E37	7735	32-bit
<u>U0-51</u>	Motor cumulative number of turns (high 32 bits)	Universal	Circle	0x1E39	7737	32-bit
U0-52	Reserved	Universal	-	0x1E3B	7739	16-bit
<u>U0-53</u>	Motor model code	Universal	-	0x1E3C	7740	16-bit
<u>U0-54</u>	Absolute encoder position in 1 circle	Universal	Encoder unit	0x1E3D	7741	32-bit
<u>U0-55</u>	Circle numbers of absolute encoder	Universal	Circle	0x1E3F	7743	16-bit
<u>U0-56</u>	Current position of the multi-turn absolute encoder	Universal	Instruction unit	0x1E41	7745	32-bit



Group U1 Warning monitoring

Function				Modbus a	Data	
code	Name	Category	Unit	Hexadecimal	Decimal	type
<u>U1-01</u>	Current fault code	Warning	-	0x1F01	7937	16-bit
<u>U1-02</u>	Current warning code	Warning	-	0x1F02	7938	16-bit
<u>U1-03</u>	U phase current when faults occur	Warning	Α	0x1F03	7939	16-bit
<u>U1-04</u>	V phase current when faults occur	Warning	Α	0x1F04	7940	16-bit
<u>U1-05</u>	Bus voltage when faults occur	Warning	V	0x1F05	7941	16-bit
<u>U1-06</u>	IGBT temperature when faults occur	Warning	°C	0x1F06	7942	16-bit
<u>U1-07</u>	Torque component when faults occur	Warning	%	0x1F07	7943	16-bit
<u>U1-08</u>	Excitation component when faults occur	Warning	%	0x1F08	7944	16-bit
<u>U1-09</u>	Position deviation when faults occur	Warning	Encoder unit	0x1F09	7945	32-bit
<u>U1-10</u>	Speed value when faults occur	Warning	rpm	0x1F0B	7947	16-bit
<u>U1-11</u>	Time when the fault occurred	Warning	s	0x1F0C	7948	16-bit
<u>U1-12</u>	Number of faults in this operation	Warning	-	0x1F0D	7949	16-bit
<u>U1-13</u>	Number of warnings in this operation	Warning	-	0x1F0E	7950	16-bit
<u>U1-14</u>	Total number of historical faults	Warning	-	0x1F0F	7951	16-bit
<u>U1-15</u>	Total number of historical warnings	Warning	-	0x1F10	7952	16-bit
<u>U1-16</u>	The 1st fault code of the most recent	Warning	-	0x1F11	7953	16-bit
<u>U1-17</u>	The 2nd fault code of the most recent	Warning	-	0x1F12	7954	16-bit
<u>U1-18</u>	The 3rd fault code of the most recent	Warning	-	0x1F13	7955	16-bit
<u>U1-19</u>	The 4th fault code of the most recent	Warning	-	0x1F14	7956	16-bit
<u>U1-20</u>	The 5th fault code of the most recent	Warning	-	0x1F15	7957	16-bit
<u>U1-21</u>	The 1st warning code of the most recent	Warning	-	0x1F16	7958	16-bit
<u>U1-22</u>	The 2nd warning code of the most recent	Warning	-	0x1F17	7959	16-bit
<u>U1-23</u>	The 3rd warning code of the most recent	Warning	-	0x1F18	7960	16-bit
<u>U1-24</u>	The 4th warning code of the most recent	Warning	-	0x1F19	7961	16-bit
<u>U1-25</u>	The 5th warning code of the most recent	Warning	-	0x1F1A	7962	16-bit



Group U2 Device monitoring

Function				Modbus ac	ldress	
code	Name	Category	Unit	Hexadecimal	Decimal	Data type
<u>U2-01</u>	Product Series	Device	-	0x2001	8193	16-bit
<u>U2-02</u>	Model	Device	-	0x2002	8194	16-bit
<u>U2-03</u>	Model	Device	-	0x2003	8195	16-bit
<u>U2-04</u>	Firmware version	Device	-	0x2004	8196	16-bit
<u>U2-05</u>	Hardware version	Device	-	0x2005	8197	16-bit
	Manufacture day (year)	Device				16-bit
<u>U2-06</u>	Firmware day (year)*	Device	Year	0x2006	8198	16-bit
112.07	Manufacture day (month)	Device	Month	0x2007	8199	16-bit 16-bit
<u>U2-07</u>	Firmware day (month)*	Device	MONTH	0,2007	0133	
112.00	Manufacture day (day)	Device	Day	0x2008	8200	16-bit
<u>U2-08</u>	Firmware day (day)*	Device	Day	0x2008	8200	16-bit
<u>U2-09</u>	Device serial number 1	Device	-	0x2009	8201	16-bit
<u>U2-10</u>	Device serial number 2	Device	-	0x200A	8202	16-bit
<u>U2-11</u>	Device serial number 3	Device	-	0x200B	8203	16-bit
<u>U2-12</u>	Device serial number 4	Device	-	0x200C	8204	16-bit
<u>U2-13</u>	Device serial number 5	Device	-	0x200D	8205	16-bit
<u>U2-14</u>	Device serial number 6	Device	-	0x200E	8206	16-bit
<u>U2-15</u>	Device serial number 7	Device	-	0x200F	8207	16-bit
<u>U2-16</u>	Device serial number 8	Device		0x2010	8208	16-bit

[&]quot;*" represents the name of the VD2F servo drive monitor.