User's Manual ^{For} Integrated Servo Motor iSV Series



BLDC Servo Motor + Drive, 24-50VDC, Frame 57mm ,90W-180W

#7 Zhongke Road, Jiangning, Nanjing, China T: 0086-2587156578
Web site: www.omc-stepperonline.com E-Mail: sales@stepperonline.com

1. Introduction

An iSV57T(S) servo motor is a NEMA23 (57mm) brushless motor integrated with a 16-bit magnetic encoder and servo driver, which making performance better and tuning easier. And the compact design saves installation space, eliminates encoder and motor wiring time, reduces interference and costs.

2. Specifications

Parameter	Min	Typical	Max	Unit
Input Voltage	20	36	50	VDC
Continuous Current	0	-	6.0	А
Pulse Input Frequency	0	-	300	kHz
Pulse Voltage	0	5	5	V
Logic Signal Current	7	10	16	mA
Isolation Resistance	100	-	-	MΩ



Part Number	iSV57T-090(S)	iSV57T-130(S)	iSV57T-180(S)
Rated Power(W)	90	130	180
Rated Torque (N.m)	0.3	0.4	0.6
Peak Torque(N.m)	0.9	1.2	1.8
Rated Speed(rpm)	3000	3000	3000
Peak Speed(rpm)	4000	4000	4000
Rated Voltage(Vdc)	36	36	36
Rotor Inertia(g-cm ²)	264	394	524
Weight(kg)	0.95	1.25	1.54
L1(mm)	76	96	116
L(mm)	108	128	148
LS(mm)	33(21)	33(21)	33(21)
LD(mm)	27(15)	27(15)	27(15)

3. Connectors and Pin Assignment

	Control Signal Connector				
Pin	Name	I/O	Description		
1	PUL+	I	Pulse signal: Pulse active at rising edge; 4-5V when PUL-HIGH, 0-0.5V when PUL-LOW.		
2	PUL-	I	Minimal pulse width of 2.5µs. It's recommend dutycycle 50%. Add a resistor for current-limiting at +12V or +24V input logic voltage (1K for +12V, 2k for +24V).		
3	DIR+	I	DIR signal: Pulse active at rising edge; 4-5V when PUL-HIGH, 0-0.5V when PUL-LOW. The low/high voltage levels to represent two directions of motor rotation. Add a resistor for		
4	DIR-	I	at least 5µs in advance of PUL signal		
5	ALM+	0	Alarm Signal: OC output signal, activated when one of the following protection is activated: over-voltage and over current error. They can sink or source MAX 50mA current at 24V. By		
6	ALM-	0	default, the impedance between ALM+ and ALM- is low for normal operation and becomes high when any protection is activated.		

Note : The enable signal is not configurable, it is enabled on power-up by default, and cannot be modified by software.

	Power Connector				
Pin	Name	I/O	Description		
1	+Vdc	I	Power Supply Input (Positive) 24-36VDC recommended. Please leave reasonable reservation for voltage fluctuation and back-EMF during deceleration.		
2	GND	GND	Power Ground (Negative)		

	RS232 Communication Connector				
Pin	Name	I/O	Description		
1	+5V	0	+5V power output (Note: Do not connect it to PC's serial port)		
2	TxD	0	RS232 transmit.		
3	GND	GND	Ground.		
4	RxD	I	RS232 receive.		
5	NC	-	Not connected.		

4. DIP Switch

4.1 Microstep (S1-S3)

Pulse/rev	S1	S2	S3
Pr0.08	off	off	off
1600	on	off	off
2000	off	on	off
3200	on	on	off
4000	off	off	on
5000	on	off	on
6400	off	on	on
8000	on	on	on

The microstep parameter is determined by DIP switches S1 to S3. When DIP switches S1 to S3 are all OFF, the microstep parameter is Pr0.08. changed the value of parameter Pr0.08 to the desired microstep value, click "download parameter", "Save", power off and restart iSV57T, it can take effect. Note: microstep parameter G setting principle, when servo motor movement at the highest speed N (rpm), the input pulse frequency F≤300KHz. That is, G*N/60≤300K.

4.2 Stiffness Setting(S4-S5)

Stiffness	S4	S5
Pr0.03	off	off
9	on	off
10	off	on
11	on	on

4.3 Motor Direction (S6)

The DIP switch S6 is used to change the initial direction of the motor (offline), not as a real-time operation to modify the direction.Online modification of the motor direction is via the DIR signal

S6	Direction	
off	CCW	
on	CW	

Note: Change the DIP switch status when the power is off.

5. Typical Connections

5.1 Control Signal Connection



(common-cathode)





Connections to Differential signals

5.2 Alarm Output Connection



6. Quick Setting of Parameters

6.1 Connect to Tuning Software

When you open the "communication" window, just select the correct COM port and keep the default for other else, like this baud-rate, keep the default 38400, no need to change it to 19200



6.2 Key Parameters

Usually the setting for Pr0.01-0.04 and Pr2.22 can be :

Pr0.01 = 0; Pr0.02 = 1; Pr0.03 = 10 – 15; Pr0.04 = 100 – 1000; Pr2.22 is for smooth movement

			Range	unit	default	
Pr0.01	Control Mode Setu	р	0-10	-	0	
C): Position Control Mode	;		I		
1	-10: Unsupported Contr	ol Modes;				
Pr() ()2	Real-time Auto-gai	in Tuning	Range	unit	default	
110.02	Real time Auto ga		0 -2	-	1	
You car	n set up the action mode	e of the real-time auto-gain tu	ning.			
Setup value Mode Varying degree of load inertia in motion						
0	Invalid	Real-time auto-gain tuning fu	nction is di	sabled.		
1	Interpolation motion	Used for interpolation motion	on, such as CNC, engraving machine, etc.			
2	2 Point-to-point motion Mainly used for point-to-point movement					
Note: If	Note: If Pr0.02=1 or 2, the values of Pr1.01 – Pr1.13 are all read only, they are automatically generated.					
	Stiffporc		Range	unit	default	
P10.03	Sumess		0 -31	-	11	
It can 10~14 Pr0.04	be set by S4 and S5. If the set by set by S4 and S5. If the set by S4 and S5 and S4 and S4 and S4 and S5 and S4 and S5 and S4	ney are "off & off". Screw-cou ded stiffness range 9~13. It is ne stiffness value. stiffness → High	pling load recommei	recomr nded to	nended stiffness range set a suitable value of	
	Low	o gain → High				
0.	.1	2.13 ······ 30.31 ponse → High				

Set rigid parameters

Servo motor rigidity refers to the ability of the motor shaft to resist external torque interference. In the servo system position mode, the rigidity parameter is a parameter that is a combination of the PID parameter and the filter parameter. Its size determines how quickly the servo responds. Generally, the higher the rigidity, the faster the response speed; however, if the rigidity is set too high, mechanical resonance is likely to occur, so an appropriate rigidity value needs to be set according to the actual mechanical load.

For the ISV57T series intelligent integrated low-voltage servo motor, if the screw-coupling direct connection structure is used, the recommended stiffness range is 10~14; the recommended stiffness range for the pulley structure is 9~13. The rigidity parameters are determined by dialing S4~S5 first. When S4~S5 are all in "OFF" state, the rigidity parameters are determined by the value of parameter "Pr0.03". The specific setting method is as follows:

A. Quickly set the rigidity parameters through dialing. After the power is turned off, refer to the S4~S5 dialing definition of the ISV57T series intelligent integrated low-voltage servo to quickly set the rigidity parameters and take effect after powering on.

B. Set rigid parameters through ACHSeries debugging software:

If the rigid parameters corresponding to the dialing code do not include the rigid parameters required by the customer, you need to modify the driver parameter "Pr0.03" through the ACHSeries debugging software to set the required rigid parameters. The setup steps are as follows:

After powering off, set all dial codes $S4^{S5}$ to "OFF" state, power on, connect to the driver through the PC software ACHSeries debugging software, modify the value of parameter Pr0.03 to the required subdivision value, and execute "Delivery Parameters" ——"Save", power off and restart to take effect.

Note: Higher the setup value, higher the velocity response and servo stiffness will be obtained. However, when increasing the value, need to avoid oscillation or vibration.

D:0.04			Range	unit	default
Pr0.04	Load Inertia ratio		0 -10000	%	300
It means t	hat the ratio of load inertia against t	he motor ro	tor inertia. F	Recomme	nded below 1000;
Pr0.04=(load inertia/rotate inertia)×100%				
If the valu	e of inertia ratio is set correctly, the	unit of Pr1.0	1 and Pr1.0	6 will char	nge to "Hz". If this value
is too sma	ll, the motor will stop unstably, if the	e value is lar	ger than the	actual, th	ne motor will shake
when run	ning,. How to get the correct value c	an be referre	ed to Appen	dix A	
Dr0 09	Microston		Range	unit	default
PTU.08	Microstep			pulse	4000
The numb	er of pulses required for one revolution	tion of the m	otor.		
For some	special users, it can use Pr0.09 (1 st n	umerator of	electronic g	ear) and F	Pr0.10 (Denominator of
electronic	Gear) to set required pulses numbe	r , they are a	vailale whe	n Pr0.08 is	s set to value 0.
Pr2 22	Positional Command Smoothing Fil	ter	Range	unit	default
112.22	Prz.22 Posicional Command Smoothing Filter			0.1ms	5 0
 Set up 	the time constant of the1st delay fil	ter in respon	se to the po	sitional co	ommand.
• When	a square wave command for the tar	get speed Vc	is applied,	set up the	time constant of
the 1st	delay filter as snown in the	Speed Position	nal command befo	re filter	Filter switching
ingure	below.		-ositional comman	id alter liller	waiting time *2
Note: Resta	rt the nower to make new value		Positional con	nmand smoothi	
available .	Vc×0.1	632 *1	filter setup tim	e [ms]	
	10.0	000 *1	(Prz.zz x 0.1	ms)	
	VCXU.	308	V		
			4		Time
					• • • · · · · · · · · · · · · · · · · ·

6.3 Save Parameters

If you want the modified parameters continue to be valid after power off, please click both "Download" and "Save".

Parameter Manage				
ReadFile 💾 SaveAs 🔶 Unload	Dow	nlosć Šave	Save	and T T Para

6.4 Restore to Factory

If you need to restore the factory settings, it can import the file with our factory parameter values, and then click both "Download" and "Save", then valid after re-power.

Classify Selast	1 Paramete	r N ParameterName	Value	Bange	Default	Units	Bemark
Classify Select	Pr0.00	Mode loop gain	1	0~32767	1	0.1Hz	No
GainAdjustment	Pr0.01	Control mode	0	0~20	0	-	Position
VibrationSuppression	Pr0.02	Real-time auto-casin tuning mo	2	0~2	0	-	No
VelocitylorqueLontrol MonitorSetting	Pr0.03	Read parameter list		×	11	-	No
ExtensionSetting	Pr0.04				250	%	No
SpecialSetting SectorySetting	Pr0.06	查找范围(I): 🍌 Factory Parameter:	•	← 🗈 📸 🐨	0	-	Power
actory betting	Pr0.07				3	-	Power
	Pr0.08	名称		修改日期	0	Pulse	Microst
	Pr0.09	Factory Parameters-ISV57T-90		2021/6/28 14:22	1	_	No
	Pr0.10	Factory Parameters-ISV57T-130		2021/6/28 14:22	1	0.00	No
	Pr0.11	Br . D		2021/0/20 14.22	2500	P/rev	Power
	Pr0.12	Factory Parameters-ISV5/1-180		2021/6/28 14:22	0	-	Power
	Pr0.13			_	300	-	No
	Pr0.14			<u></u>	200	0.1 rev	Encode
	Pr0.16	文件名(M): Factory Parameters-IS	V57T-180	打开 (0)	50	Ω	Power
	Pr0.17				50	W	Power
	Pr0.18	XH尖型UJ: Isr Files(*.1sr)		工 取消	10	Pulse	Encod
	Pr0.19				10	0.1Pulse	Encod

7. Fault Protections & Troubleshooting

To improve reliability, the drive incorporates some built-in protection features.

Blink time(s)	Sequence wave of red LED	Description	Trouble shooting		
1		Over-current	Turn off the power immediately. a) Check if the machinery is stuck; b) Re-import factory parameters.		
2		Over-voltage	Turn off the power immediately. a) Check if the power supply is below 50V, default over-voltage point is 72VDC		
4		Over-load	Turn off the power immediately. c) Check if the machinery is stuck; a) Re-import factory parameters.		
5		Encoder error	Restart the power supply, if the drive is still alarm, please contact after-sale		
7		Position following error	a) Motor torque is not enough;b) Check if the machinery is stuck;c) Re-import factory parameters.		

When above protections are active, the motor shaft will be free and the red LED blinks. Reset the drive by repowering it to make it function properly after removing above problems.

Appendix A. How to get the correct Load inertia ratio

Load inertia ratio is a very important parameter for iSV57T(S) servo, and users need to set the correct load inertia ratio parameter before adjusting the correct rigidity parameter. Then the setup steps are as follows: Note: Do make the axis can be moved in safe distance, any interference should be avoided to ensure safety and accuracy of testing.

(1) Connect motor with load, if there is no load, the value of load inertia ratio will be set to "0".



(2) Click "run test" Minimum (2) Click "run test" (

The value of the load inertia ratio obtained from the above steps can satisfy most applications, but for some cases where the load inertia is very high, the value of Pr0.04 can be increased to more than 1000.

Appendix B. Parameters List

The screenshot of the parameter list is provided for reference only. The figure is the factory parameter value of 180W integrated servo motor, because there are three motor models in this series, so the default parameters may not be the same.

Institut Image Institut Image Institut Image Institut Image	arameter Manage							
Description Parameter N. Parameter N. </th <th>ReadFile Paves</th> <th>As TUnload</th> <th>Download ave Save Par</th> <th>ameterCompar</th> <th>e 💣 Reset 🕐</th> <th>Help</th> <th></th> <th></th>	ReadFile Paves	As TUnload	Download ave Save Par	ameterCompar	e 💣 Reset 🕐	Help		
Provestigner Ph.0.0 Reserved parameters 1 0 "32767 1 0.1142 Includition Vibratiopage scient Vibratiopage scient Ph.0.0 Period index 0 <t< th=""><th>Classify Select</th><th>Parameter</th><th>N ParameterName</th><th>Value</th><th>Range</th><th>Default</th><th>Units</th><th>Remark</th></t<>	Classify Select	Parameter	N ParameterName	Value	Range	Default	Units	Remark
National Series Photo Control mode 0 <th< td=""><td>BasicSetting</td><td>Pr0.00</td><td>Reserved parameters</td><td>1</td><td>0~32767</td><td>1</td><td>0.1Hz</td><td>Invalid</td></th<>	BasicSetting	Pr0.00	Reserved parameters	1	0~32767	1	0.1Hz	Invalid
Numerical Supports is on the last of status Production of machine attiness 1 0 " 2 1 - Due Due <thdue< th=""> <thdue< th=""> Due</thdue<></thdue<>	GainAdjustment	Pr0.01	Control mode	0	0~10	0	-	0-Positio
Name Decision of the set o	VibrationSuppression ValeaitrTenenaControl	Pr0.02	Real-time auto-gain tuning mo	1	0~2	1	-	1- for CN
Harten is Setting Pactaget is is Pr0.04 Pactor of income 250 0 "1 1000 250 % Load Info Pactaget is Pr0.05 Microselp 4000 0 "32767 4000 Puisson - Info Pactor Pr0.08 Microselp 4000 0 "32767 1000 Puisson - No Pr0.09 1st numerator of electronic gear 1 1 "32767 1 - No Pr0.11 Reserved parameters 2500 1 "2500 2500 Pirev Invalid Pr0.12 Reserved parameters 2500 1 "2500 2500 1 month Pr0.13 1 strange limit 300 0 "500 2500 1 month Pr0.17 Reserved parameters 50 10 "5000 200 1 month Pr0.17 Reserved parameters 50 10 "5000 200 0 "1 month Pr0.17 Reserved parameters 50 10 "5000 20 0 Its Pr0.17 Reserved parameters 50 10 "5000 20 0 Its Pr0.18 Mic	MonitorSetting	Pr0.03	Selection of machine stiffness	11	0~31	11	-	Dynamic
Photo Motor rotebons direction setup 0 0 * 1 0 - Inhold P0007 Reserved parameters 3 0 * 3 3 - Invalid P0008 Microstep 4000 0 * 3 2767 1 - No P0008 Inturnetor of electronic gear 1 1 * 32767 1 - No P0010 Denominator of electronic gear 1 1 * 32767 1 - No P0010 Denominator of electronic gear 1 1 * 32767 1 - No P0010 Denominator of electronic gear 0 0 * 1000 0 - Invalid P0012 Reserved parameters 2500 0 * 500 300 - No P014 Position devisition setupes setup 0 0 * 1000 0 0 Irev Ferce P117 Regeneration discharge resistor 50 10 * 500 50 W Power P1018 Microsters Value Parameter Neme	ExtensionSetting	Pr0.04	Ratio of inertia	250	0~10000	250	%	Load ine
Add Dates Price 0.9 Reserved parameters 3 0 ** 3 9 - Investi Price 0.8 Microssip 4000 0 ** 3267 1 - No Price 0.8 Microssip 4000 0 ** 3267 1 - No Price 1.1 Reserved parameters 2500 1 ** 3267 1 - No Price 1.1 Reserved parameters 2500 1 ** 3267 1 - No Price 1.1 Reserved parameters 2500 1 ** 500 2500 Price * Fract Price 1.1 Reserved parameters 50 10 ** 500 200 0.* 500 200 0.* 500 200 0.* 500 200 0.* 500 200 0.* 7000 50 4 Prove Pr	SpecialSetting	Pr0.06	Motor rotational direction setup	0	0~1	0	-	Initial dir
Add Cextom Microstop 4000 0 * 3267 4000 Pulse Numl P0109 15 numerator of electronic gear 1 1 * 3267 1 - No P010 Denominator of electronic gear 1 1 * 3267 1 - No P010 Denominator of electronic gear 1 1 * 3267 1 - No P011 Reserved parameters 0 0 * 1 0 - No P012 Reserved parameters 0.0 0 * 500 30.0 - No P014 Position deviation setup 200 0 * 500 50 W Position deviation setup 0 10 * 5000 50 W Position deviation setup 0 0 * 1000 0 Diffees Enco P018 Microsepinol Statupersiston 0 0 * 1000 0 Diffees Enco P018 Microsepinol Statupersiston 0 0 * 1000 0 Diffees Enco P1018 Statoffile	ractorysetting	Pr0.07	Reserved parameters	3	0~3	3		Invalid
Add Custom PriD.09 1st numerisation of electronic gear. 1 1 1 2227 1 - No. PD10 Denominator of electronic gear. 1 1 2227 1 - No. PD11 Reserved parameters 2500 1 7500 2000 - No. PD13 Tattorque limit 300 0 5500 2000 0 500 2000 0 No. PD14 Position devicion setup 200 0 5500 50 M. Power Power Power Poils Encor Power Power Power Power Poils Encor Power Power Poils With rower service parameters 50 10 50 M. Power		Pr0.08	Microsten	4000	0 ~ 32767	4000	Pulse	Number
Add Custoe Print 0 Denominator of electronic ger 1 1 7.2520 1 - No P011 Reserved parameters 0.0 0.11 0.0 - No P012 Reserved parameters 0.0 0.11 0.0 - No P014 Postion deviation setup 200 0.7500 50.0 200 0.1rev Enco P016 Extend regeneration discharge resistor 0.0 1000 50.0 W Power P018 Microseismic inhibition 0 0.71000 0.0 Pulse Enco P019 Microseismic inhibition 0 0.71000 0.0 D1Pulse Enco etactify Salext P100 1st position loop gain 320 0.73000 330 0.1/s No P102 1st three constant of velocity/on 310 1.78 No		Pr0.09	1st numerator of electronic gear	1	1 ~ 32767	1	-	No
Add Custom Period 1 Reserved parameters of 0 0 ^ 71 0 Non P012 Reserved parameters 0 0 ^ 71 0 Nondi P013 Tattorque limit 300 0 ^ 7500 200 1 - 7500 50 0 Nondi P014 Position deviation suppression - Note: 50 10 ^ 500 50 0 Poils Position deviation suppression - Note: 0 0 ^ 71000 0 Poils <		Pr0.10	Denominator of electronic gear	1	1 ~ 32767	i	-	No
Add Custem Poil 12 Reserved parameters 0 0 1 0 - Non Poil 3 1 storque limit 300 0 500 300 - Non Poil 4 1 storque limit 300 0 500 200 0 Fragmentonic storque storm Poil 6 Extend regeneration storque resistor 50 10 *500 50 4 Poils Poil 7 Regeneration discharge resisto 50 10 *500 0 Vise Poils Fragmenton discharge resisto 0 0 0 Poils Fragmenton discharge resisto 0 0 0 10 <td< td=""><td></td><td>Pr0.11</td><td>Beserved narameters</td><td>2500</td><td>1 ~ 2500</td><td>2500</td><td>P/rev</td><td>Invalid</td></td<>		Pr0.11	Beserved narameters	2500	1 ~ 2500	2500	P/rev	Invalid
Data Description Description Source Source Source No PD114 Prostion deviation setup 200 0.7500 200 0.7500 200 0.7500 200 0.7500 200 0.7500 200 0.7500 200 0.7500 50 4.0 Prove Enco PD117 Regeneration discharge resister 50 10.7500 50 W Prove Enco PD118 Vibration suppression - Nater 0 0.17000 0 0.1FeV Enco PD119 Microseismic inhibition 0 0.71000 0 0.1FeV Enco escription Intercement N. ParameterName Value Range Default Units Remotion escription 100 1st velocityloop gain 320 0.3000 320 0.1/s No P1.00 1st velocityloop gain 380 1.32777 180 0.1/s No P1.01 1st velocityloop gain 380 0.75000 <td></td> <td>Pr0.12</td> <td>Received parameters</td> <td>0</td> <td>0~1</td> <td>0</td> <td>-</td> <td>Invalid</td>		Pr0.12	Received parameters	0	0~1	0	-	Invalid
Add Custoe Parameter N. Perometer Name Volue Range Default Units Rem Add Custoe Image Sign of Sign		Dr0.12	1 estorque limit	300	0~500	300	1000	No
Add Custom Parameter NL Parameter Name Value Parage Default Units Framework Add Custom P101 1st veiooxity loop gain 320 0.7500 50 W Powe Add Custom P0.18 Vibration suppression - N direr. 0 0.71000 0 0.118V Powe Microseismic inhibition 0 0.71000 0 0.118V Powe		Dv0.14	Desition douistion acture	200	0~500	200	0.1.001	Encodo
Add Custom Parameter N Peremeter		D-0.19	Future langement in ansister	200	10~500	200	0.Trev	Deview
Add Custom P0.17 Pregeneration discharge resis SU U O O V Product P0.18 Witeration suppression - Nafer 0 0 ~ 1000 0 Pulse Enco P0.19 Microseismic inhibition 0 0 ~ 1000 0 0.1Pulse Enco escription: Image: Comparison - Nafer 0 0 ~ 1000 0 0.1Pulse Enco escription: Image: Comparison - Nafer 0 0 ~ 30000 320 0.1/s No P1.01 1stosition loop gain 320 0 ~ 30000 320 0.1/s No P1.01 1stosition compani 320 0 ~ 30000 320 0.1/s No P1.01 1stosition compani 320 0 ~ 30000 380 0.1/s No P1.01 1stosition compani 320 0 ~ 30000 380 0.1/s No P1.02 1stime constant divelocity classition 380 0 ~ 30000 15 No P1.03 </td <td></td> <td>Pr0.16</td> <td>Extenal regenerative resistor</td> <td>50</td> <td>10 500</td> <td>50</td> <td>42</td> <td>Powerc</td>		Pr0.16	Extenal regenerative resistor	50	10 500	50	42	Powerc
Add Custon Priling Workshow System U U U U Pulse Enco Add Custon 0<		Pr0.17	Regeneration discharge resis	50	10 5000	50	w.	Powerd
Add Custom PH0.19 Microsensmic inhibition U U [*] 1000 U UIPuise Enco Add Custom Image: Construction of the constructin of the construction of the construction of the consth		Pr0.18	Vibration suppression - N after	U	0.~ 1000	U	Pulse	Encode
Add Custom Image: Control State		Pr0.19	Microseismic inhibition	U	0 - 1000	U	0.1 Puise	Encode
Add Custom Image: Control State of								
Add Custon Parameter N Parameter Name Value Range Default Units Remministry Interview of the string Pri.00 1st position loop gain 220 0 ~ 30000 320 0.1/s No Pri.00 1st position loop gain 100 1 ~ 32767 180 0.1Hz No Pri.01 1st two constant of valocity loo 310 1 ~ 10000 310 0.1ms No Pri.02 1st time constant of valocity loo 310 1 ~ 10000 15 - No Pri.03 1st time constant of valocity loop gain 380 0 ~ 30000 380 0.1/s No Pri.05 2nd position loop gain 380 0 ~ 30000 10000 0.1ms No Pri.06 2nd time constant of valocity loop gain 80 0 ~ 31 15 - No Pri.08 2nd time constant of valocity loop gain 0 0 ~ 10000 0.1ms No Pri.09 2nd time constant of valocity loop gain 0 0 ~ 1000 0.01ms	Add Custom					_		
Add Custom Pri 101 1 style/cit/loop gain 180 1 ~ 32267 180 0.1Hz No VibrationSystem Pri 0.2 1stime constant of velocity loo 310 1 ~ 100000 310 0.1ms No VibrationString Pri 0.3 1stifter of velocity detection 8 0 ~ 10000 15 - No Pri 0.4 1stforque filter 126 0 ~ 2500 126 0.01ms No Pri 0.4 1stforque filter 126 0 ~ 2500 126 0.01ms No Pri 0.5 2nd velocity loop gain 380 0 ~ 30000 380 0.1Hz No Pri 0.6 2nd velocity loop gain 180 1 ~ 32267 180 0.1Hz No Pri 0.6 2nd velocity loop gain 300 0 ~ 3000 300 0.1Hz No Pri 0.8 2nd titler of velocity detection 8 0 ~ 311 15 - No Pri 1.8 Control switching and 300 0 ~ 1000 0 0.01ms No	Ulassify Select BasicSetting	Pr1.00	1st position loop gain	320	0 ~ 30000	320	0.1/s	No
Add a light opposition and the second sec	ainAdjustment	Pr1.01	1st velocity loop gain	180	1 ~ 32767	180	0.1Hz	No
deni coršetting interasi adstiting Pri.0.3 Istitiler of velocity detection 8 0 * 10000 15 No Special Estiting sectory Setting Pri.0.4 1stitiler of velocity loop gain 380 0 * 30000 380 0.1/s No Special Estiting Pri.0.5 2nd position loop gain 180 1 * 32767 180 0.1/s No Pri.0.6 2nd velocity loop gain 180 1 * 32767 180 0.1/s No Pri.0.9 2nd titer of velocity detection 8 0 * 31 15 - No Pri.0.9 2nd torque filter 126 0 * 2500 126 0.01ms No Pri.1.1 Velocity feed forward gain 300 0 * 1000 300 0.10% No Pri.1.1 Velocity feed forward gain 0 0 * 1000 0 0.10% No Pri.1.1 Velocity feed forward gain 0 0 * 1000 0 0.10% No Pri.1.1 Velocity feed forward gain 0 0 * 1000 0<	/elocityTorqueControl	Pr1.02	1st time constant of velocity lo	310	1~10000	310	0.1ms	No
Add Custon Pril.04 Pril.04 position loop gain 12b 0 2500 12b 0.01ms No Pril.05 2nd velocity loop gain 180 1 ~ 32767 180 0.11/s No Pril.06 2nd velocity loop gain 180 1 ~ 32767 180 0.11/s No Pril.06 2nd velocity loop gain 180 1 ~ 32767 180 0.11/s No Pril.08 2nd time constant of velocity/L. 10000 1 0000 0.0000 0.1ms No Pril.09 2nd torque filter 126 0 ~ 31 15 - No Pril.09 2nd torque filter 126 0 ~ 1000 300 0.10% No Pril.10 Velocity feed forward gain 0 0 ~ 6400 50 0.01% No Pril.11 Velocity feed forward filter 0 0 ~ 6400 0 0.01% No Pril.12 Torque feed forward filter 0 0 ~ 1000 0 0.01ms No Pril.12	onitorSetting stansionSatting	Pr1.03	I st filter of velocity detection	8	0.4 10000	15	-	No
actorySetting Pr1.05 210 position loop gain 300 0 3000 300 0.175 No Pr1.06 2nd velocity loop gain 180 1~32767 180 0.114z No Pr1.07 2nd time constant of velocity l 10000 1~10000 10000 0.1ms No Pr1.09 2nd torque filter 126 0~2500 126 0.01ms No Pr1.09 2nd torque filter 126 0~2500 300 0.10% No Pr1.10 Velocity feed forward gain 300 0~1000 300 0.10% No Pr1.11 Velocity feed forward gain 0 0~1000 0 0.01ms No Pr1.12 Torque feed forward gain 0 0~1000 0 0.01ms No Pr1.13 Torque feed forward gain 0 0~100 0 - No Pr1.14 2nd gain setup 1 0~10 0 - No Pr1.14 2nd gain setup 1 0~10 0 - No Pr1.15 Control switching mo	pecialSetting	Pr1.04	I st torque filter	126	0 2500	126	0.01ms	NO
Add Custom Prilog 2nd velocity option 100 1 ~ 2000 0.112 No Prilog 2nd time constant of velocity detection 8 0 ~ 31 15 - No Prilog 2nd time constant of velocity detection 8 0 ~ 31 15 - No Prilog 2nd torque filter 126 0 ~ 2500 126 0.01ms No Prilog 2nd torque filter 1000 0 ~ 2500 126 0.01ms No Prilog 2nd torque filter 50 0 ~ 6400 50 0.01ms No Pril 10 Velocity feed forward gain 0 0 ~ 1000 0 0.01ms No Pril 13 Torque feed forward gain 0 0 ~ 1000 0 0.01ms No Pril 14 2nd gain setup 1 0 ~ 1 0 - No Pril 13 Control switching level 50 0 ~ 10000 33 0.1ms No Pril 33 Speed given filter 0 0 ~ 2000 <td>actorySetting</td> <td>Pr1.05</td> <td>2nd position loop gain</td> <td>300</td> <td>1 ~ 20767</td> <td>300</td> <td>0.1/5</td> <td>NO</td>	actorySetting	Pr1.05	2nd position loop gain	300	1 ~ 20767	300	0.1/5	NO
Add Custom Pril.08 2nd filter of velocity detection 8 0 ~ 31 15 - No Pril.08 2nd filter of velocity detection 8 0 ~ 31 15 - No Pril.09 2nd filter of velocity detection 8 0 ~ 31 15 - No Pril.09 2nd torque filter 126 0 ~ 2500 126 0.01ms No Pril.10 Velocity feed forward gain 300 0 ~ 1000 300 0.10% No Pril.12 Torque feed forward gain 0 0 ~ 6400 0 0.01ms No Pril.14 2nd gain setup 1 0 ~ 1 1 - No Pril.13 Torque feed forward gain 0 0 ~ 1000 0 0.01ms No Pril.14 2nd gain setup 1 0 ~ 1 0 ~ - No No Pril.15 Control switching level 50 0 ~ 2000 50 mode No Pril.19 Gain switching time 33 <		Pr1.06	2nd velocity loop gain 2nd time constant of velocity l	10000	1 ~ 10000	10000	0.1mc	No
Add Custom Pr1.00 2nd torque filter 126 0 ~ 2500 126 0.01ms No Pr1.10 Velocity feed forward gain 300 0 ~ 1000 300 0.10% No Pr1.11 Velocity feed forward gain 0 0 ~ 6400 50 0.01ms No Pr1.12 Torque feed forward gain 0 0 ~ 6400 0 0.01ms No Pr1.13 Torque feed forward gain 0 0 ~ 6400 0 0.01ms No Pr1.14 2nd gain setup 1 0 ~ 1 1 - No Pr1.15 Control switching mode 0 0 ~ 1000 0 0.01ms No Pr1.15 Control switching level 50 0 ~ 2000 33 mode No Pr1.19 Gain switching time 33 0 ~ 10000 0 0.01ms No Pr1.35 Position command digital filter 0 0 ~ 2000 0 50ns Powe Pr1.37 Special function register 0 0 ~ 32767 0 - No Pr2.01 1st notch		Pr1 08	2nd filter of velocity detection	8	0 ~ 31	15	- U. THIS	No
Add Custon Print Parameter N Parameter Name Value Range Default Units Remu Add Custon Print 1st notch frequency 2000 50° 2000 2000 Hz No Print		Pr1 09	2nd torque filter	126	0~2500	126	0.01ms	No
Add Custom Pri.11 Velocity feed forward filter 50 0 ~ 6400 50 0.01ms No Pri.12 Torque feed forward gain 0 0 ~ 6400 0 0.10% No Pri.13 Torque feed forward gain 0 0 ~ 6400 0 0.01ms No Pri.14 2nd gain setup 1 0 ~ 1 - No Pri.14 2nd gain setup 1 0 ~ 1 - No Pri.15 Control switching mode 0 0 ~ 20000 50 mode No Pri.18 Control switching time 33 0 ~ 20000 33 0.1ms No Pri.35 Position command digital filter 0 0 ~ 2000 0 50ns Powe Pri.35 Position command digital filter 0 0 ~ 200 0 50ns Powe Pri.37 Special function register 0 0 ~ 200 2 - No IsidSetting Isintarchitrag 2 0 ~ 200 2000		Pr1 10	Velocity feed forward gain	300	0~1000	300	0.10%	No
Add Custon Pr1.12 Torque feed forward gain 0 0 ~ 1000 0 0.10% No Pr1.13 Torque feed forward filter 0 0 ~ 1000 0 0.01ms No Pr1.13 Torque feed forward filter 0 0 ~ 10 0 - No Pr1.14 22nd gain setup 1 0 ~ 1 1 - No Pr1.15 Control switching mode 0 0 ~ 10 0 - No Pr1.17 Control switching level 50 0 ~ 20000 33 mode No Pr1.19 Gain switching time 33 0 ~ 10000 33 0.1ms No Pr1.35 Position command digital filter 0 0 ~ 2000 0 50ns Powe Pr1.36 Encoder feedback pulse digit 0 0 ~ 32767 0 - No Pr2.01 1st notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.02 1st notch frequency 2000 50 ~		Pr1.11	Velocity feed forward filter	50	0 ~ 6400	50	0.01ms	No
Add Custom Pr1.3 Torque feed forward filter 0 0 ~ 6400 0 0.01ms No P1.14 2nd gain setup 1 0 ~ 1 1 - No P1.15 Control switching node 0 0 ~ 10 0 - No P1.15 Control switching level 50 0 ~ 20000 50 mode No P1.17 Control switching time 33 0 ~ 20000 33 mode No P1.18 Control switching time 33 0 ~ 10000 0 0.01ms No P1.33 Speed given filter 0 0 ~ 200 0 50ns Powee P1.35 Position command digital filter 0 0 ~ 200 0 50ns Powee P1.37 Special function register 0 0 ~ 32767 0 - No SidSetting Instancth width 2 0 ~ 200 2000 Hz No Pr2.01 1st notch frequency 2000 50 ~ 2000		Pr1.12	Torque feed forward gain	0	0~1000	0	0.10%	No
Add Custom Pr1.14 2nd gain setup 1 0 ~ 1 1 - No Md Custom Pr1.15 Control switching mode 0 0 ~ 10 0 - No Pr1.15 Control switching mode 0 0 ~ 20000 50 mode No Pr1.17 Control switching trevel 50 0 ~ 20000 33 mode No Pr1.18 Control switching trevel 33 0 ~ 10000 33 0.1ms No Pr1.19 Gain switching trevel 0 0 ~ 10000 0 0.01ms No Pr1.35 Position command digital filter 0 0 ~ 200 0 50ns Powe Pr1.37 Special function register 0 0 ~ 200 0 ~ 32767 0 - No Pr1.37 Special function register 0 0 ~ 200 2000 Hz No Pr2.01 1stnotch frequency 2000 50 ~ 2000 2000 Hz No Pr2.02 1stnotch width<		Pr1.13	Torque feed forward filter	0	0~6400	0	0.01ms	No
Pr1.15 Control switching mode 0 0 - No Pr1.17 Control switching level 50 0 ~ 20000 50 mode No Pr1.17 Control switching level 50 0 ~ 20000 33 mode No Pr1.18 Control switching time 33 0 ~ 20000 33 0.01ms No Pr1.19 Gain switching time 0 0 ~ 10000 0 0.01ms No Pr1.35 Position command digital filter 0 0 ~ 200 0 50ns Powe Pr1.35 Position command digital filter 0 0 ~ 200 0 50ns Powe Pr1.37 Special function register 0 0 ~ 200 0 50ns Powe Pr1.37 Special function register 0 0 ~ 200 0 50ns Powe Pr1.37 Special function register 0 0 ~ 200 2 - No istassify Salect Pr2.01 1stnotch frequency 2000		Pr1.14	2nd gain setup	1	0~1	1	-	No
Add Custom Pr1.17 Control switch hysteresis 50 0 ~ 20000 50 mode No P1.18 Control switch hysteresis 33 0 ~ 20000 33 mode No P1.19 Gain switching time 33 0 ~ 10000 33 0.1ms No P1.33 Speed given filter 0 0 ~ 10000 0 0.01ms No P1.35 Position command digital filter 0 0 ~ 200 0 50ns Powe P1.37 Special function register 0 0 ~ 200 0 50ns Powe P1.37 Special function register 0 0 ~ 200 0 50ns Powe P1.37 Special function register 0 0 ~ 200 0 ~ 200 50ns Powe P1.37 Special function register 0 0 ~ 200 0 ~ 200 9 0 - No P1.201 1st notch frequency 2000 50 ~ 2000 2000 Hz No P12.01 1		Pr1.15	Control switching mode	0	0~10	0	<u></u>	No
Add Custom Pr1.18 Control switch hysteresis 33 0 ~ 2000 33 mode No Add Custom Pr1.19 Gain switching time 33 0 ~ 10000 33 0.1ms No Add Custom Pr1.36 Speed given filter 0 0 ~ 10000 0 0.01ms No Pr1.36 Position command digital filter 0 0 ~ 200 0 50ns Powe Pr1.36 Encoder feedback pulse digit 0 0 ~ 200 0 50ns Powe Pr1.37 Special function register 0 0 ~ 32767 0 - No sicSetting inAdjustment Pr2.02 1st notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.02 1st notch depth 0 0 ~ 99 0 - No Pr2.03 1st notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.04 2nd notch frequency 2000 50 ~ 2000 2000 Hz No <t< td=""><td></td><td>Pr1.17</td><td>Control switching level</td><td>50</td><td>0~20000</td><td>50</td><td>mode</td><td>No</td></t<>		Pr1.17	Control switching level	50	0~20000	50	mode	No
Pr1.19 Gain switching time 33 0 ~ 10000 33 0.1ms No Pr1.33 Speed given filter 0 0 ~ 10000 0 0.01ms No Pr1.35 Position command digital filter 0 0 ~ 200 0 50ns Powe Pr1.36 Encoder feedback pulse digit 0 0 ~ 200 0 50ns Powe Pr1.37 Special function register 0 0 ~ 32767 0 - No Itssi fy Select Image: Select <t< td=""><td></td><td>Pr1.18</td><td>Control switch hysteresis</td><td>33</td><td>0~20000</td><td>33</td><td>mode</td><td>No</td></t<>		Pr1.18	Control switch hysteresis	33	0~20000	33	mode	No
Pr1.33 Speed given filter 0 0 ~ 10000 0 0.01ms No Pr1.35 Position command digital filter 0 0 ~ 200 0 50ns Powe Pr1.36 Encoder feedback pulse digit 0 0 ~ 200 0 50ns Powe Pr1.37 Special function register 0 0 ~ 32767 0 - No 0 0 ~ 200 200 Hz No No No No No No		Pr1.19	Gain switching time	33	0~10000	33	0.1ms	No
Add Custom Pr1.35 Position command digital filter 0 0 ~ 200 0 50ns Powe Add Custom Pr1.36 Encoder feedback pulse digit 0 0 ~ 200 0 50ns Powe P1.37 Special function register 0 0 ~ 32767 0 - No Iterating Pr2.02 Ist notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.02 1st notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.02 1st notch depth 0 0 ~ 99 0 - No Pr2.03 1st notch depth 0 0 ~ 99 0 - No Pr2.04 2nd notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.05 2nd notch depth 0 0 ~ 99 0 - No Pr2.05 2nd notch depth 0 0 ~ 200 2000 Hz No Pr2.06 2nd notch depth 0		Pr1.33	Speed given filter	0	0~10000	0	0.01ms	No
Add Custom Pr1.36 Encoder feedback pulse digit 0 0 ~ 200 0 50ns Powe Add Custom Pr1.37 Special function register 0 0 ~ 32767 0 - No Iters if y Select Ite		Pr1.35	Position command digital filter	0	0~200	0	50ns	Powerc
Add Custom Pr1.37 Special function register 0 0 ~ 32767 0 - No Classify Select SidSetting Pr2.01 1st notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.01 1st notch frequency 2000 50 ~ 200 200 Hz No Pr2.02 1st notch width 2 0 ~ 20 2 - No Default Units Rem Default Units Rem Pr2.02 1st notch width 2 0 ~ 20 2 - No Default Units Rem Pr2.03 1st notch depth 0 0 ~ 99 0 - No Pr2.04 2nd notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.06 2nd notch width 2 0 ~ 20 2 - No Pr2.22<		Pr1.36	Encoder feedback pulse digit	0	0~200	0	50ns	Powerc
Add Cutrom + III Classify Select Frammeter N Parameter Name Value Range Default Units Rem sidSetting Pr2.01 1stnotch frequency 2000 50 ~ 2000 2000 Hz No pr2.02 1stnotch depth 0 0 ~ 20 2 - No nitorSetting Pr2.04 2nd notch frequency 2000 50 ~ 2000 2000 Hz No exialSetting Pr2.05 2nd notch depth 0 0 ~ 20 2 - No pr2.05 2nd notch depth 0 0 ~ 20 2 - No pr2.05 2nd notch depth 0 0 ~ 20 2 - No pr2.22 Positional command smoothin 0 0 ~ 32767 0 0.1ms Inter pr2.23 Positional command Smoothin 0 0 ~ 5000 0 0.1ms Inter	A 44 Curration	Pr1.37	Special function register	0	0~32767	0	-	No
Classify Select Parameter N Parameter Name Value Range Default Units Rem sidSetting inddjustment pr2.01 1stnotch frequency 2000 50~200 2000 Hz No brationSuperssion locityTorgueControl intorSetting erialSetting citalSetting 1stnotch depth 0 0~99 0 - No Pr2.04 2nd notch frequency 2000 50~200 2000 Hz No pr2.05 2nd notch frequency 2000 50~200 2000 Hz No pr2.05 2nd notch depth 0 0~99 0 - No pr2.06 2nd notch depth 0 0~99 0 - No pr2.06 2nd notch depth 0 0~99 0 - No pr2.22 Positonal command smoothin 0 0~32767 0 0.1ms Inter pr2.23 Positonal command ElD fibrar 0 0~5000 0 0.1ms No	Add Custom		ш					1
sidSetting inAdjustment introduction Pr2.01 1st notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.02 1st notch width 2 0 ~ 20 2 - No InterSofting tensionSetting ecialSetting ecialSetting Pr2.02 1st notch depth 0 0 ~ 99 0 - No Pr2.03 1st notch depth 0 0 ~ 200 50 ~ 2000 2000 Hz No InterSoftling ecialSetting Pr2.04 2nd notch frequency 2000 50 ~ 2000 2000 Hz No Pr2.05 2nd notch depth 0 0 ~ 20 2 - No Pr2.06 2nd notch depth 0 0 ~ 20 2 - No Pr2.22 Positional command smoothin 0 0 ~ 32767 0 0.1ms Inter Pr2.23 Positional command FID filter 0 0 ~ 5000 0 0 0	Classify Select	Parameter	N ParameterName	Value	Range	Default	Units	Remar
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	sicSetting	Pr2.01	1st notch frequency	2000	50 ~ 2000	2000	Hz	No
$ \begin{array}{c} \mbox{Pr2:0a} \mbox{Pr2:0b} Pr$	inAdjustment	Pr2.02	1st notch width	2	0~20	2	-	No
nitorSetting Pr2.04 2nd notch frequency 2000 b0 ** 2000 2000 Hz No tensionSetting Pr2.05 2nd notch width 2 0 ** 200 2 - No storySetting Pr2.06 2nd notch depth 0 0 ** 99 0 - No pr2.22 Positional command smoothin 0 0 ** 32767 0 0.1ms Interv pr2.23 Positional command EIP filter 0 0 ** 5000 0 ** 910 0 ** 100	locityTorqueControl	Pr2.03	1st notch depth	0	0~99	0	2 <u></u> -	No
Desci al Setting P12.05 2 nd notch width 2 0 20 2 - NO betorySetting P12.06 2 nd notch depth 0 0 0 99 0 - No P12.06 2 nd notch depth 0 0 0 32767 0 0.1ms Interv P12.22 Positional command smoothin 0 0 0 0 0.1ms Interv	onitorSetting stensionSetting	Pr2.04	2nd notch trequency	2000	50 * 2000	2000	Hz	No
Pr2.22 Positional command smoothin 0 0 ° 32767 0 0.1ms Intern	ecialSetting	Pr2.05	2nd notch depth	2	U 20 N~99	2		No
Pr2 23 Positional command EID filter 0 0 ° 5000 0 0 1 mg No	actorySetting	Pr2.22	Positonal command smoothin	0	0~32767	0	0.1ms	Internal
		Pr2.23	Positional command FIR filter	0	0~5000	Ō	0.1ms	No

Class 0 Basic setting

	Paramete name	r		Cont	rol mo	de		relevant mod	le	Р	S	
Pr0.01	range		0~1		unit	-	-	Standard factory settin	ıg	0		
Setting: Control mod	e switching											
Set value		Description										
0	Position con	trol n	node									
1	Speed contro	ol mo	de	de								
Note: Valid for re-pov	wer-on!!		I									
	Parameter n			me Set real-time automatic r adjustment r			re	levant mode	Р		S	Т
Pr0.02	range		0~2	un	it	_	Sta se	andard factory tting	2			
	Set the action	mod	le for real-tim	e auto	omatic	gain ac	ljust	ment:				
	Set value	mo	del	The	degree	e of cha	nge	in load inertia	duri	ing ac	tion.	
	0	inva	lid	The	real-tir	ne auto	omat	ic adjustment	fun	ction	is inva	ılid.
	1 Standard The basic mode. Focus on stability mode, no switching.					, no g	ain					
	2 Positioning Positioning Positioning mode. Horizontal axis such a variable load, friction is also recommended to use small ball screw drive and other machines.						ch as use	าง				

D-0 02	Parameter name	Automatic ad machine rigid time	justment of ity Settings in	relevant mode	Ρ	S	Т		
PT0.05	range	0~31	unit	_	Standard factory setting	11			
	Mechanical rigidity setting when real-time automatic gain adjustment is in effe								
	low ← Mechanical → High low ← rigidity servo → high gain								
	0.1	11.12.13			·30·31				
		low <	responsivene	ess	> high				
NOTE→	The higher the se rigidity, but it bea confirming the ad	etting value, the comes prone to ction.	e higher the sp vibration. Cha	beed ange	response, the high the low value to t	ier the s he high	servo value w	/hile	

2.0.04	Parameter name	inertia ratio			Linked Mode	Р	S	т	
Pr0.04	Setting range	0~10000	unit (of measure)	%	Standard factory setting	300			
	Set the load in $Pr0.04 = (L_{100\%})$	nertia ratio foi oad inertia /	r the correspor	nding m nertia)	notor rotational inerti \times	а.			
Attention→	100%. When the inertia ratio is set correctly, the setting unit of Pr1.01 and Pr1.06 is (Hz); if the inertia ratio of Pr0.04 is larger than the actual one, the gain unit of the speed ring will be larger; if the inertia ratio of Pr0.04 is smaller than the actual one, the gain unit of the speed ring will be available.								

Pr0.06	Parameter name	Command p setting	oulse polarity		Linked Mode	Р				
	Setting	0~1 unit (of -		Standard factory	0	0				
	range		measure)	setting						
Sets the direction of rotation for command pulse input, and the command pulse input form.										

	Parameter name	Command	pulses per rev	olution	Linked Mode	Р			
Pr0.08	Setting range	g ~ unit (of 0 32767 measure) Pluse		Pluse	Standard factory setting	4000			
Setting the number of command pulses per revolution of the motor									
2.0.12	Parameter name	No. 1 Torqu	le limitation		Linked Mode	Ρ	S		
Pr0.13	realm	0 to 500	unit (of measure)	%	Standard factory setting	250			
Setting: 1st torque limit.									
Selection of torque limiting mode via pr5.21									

Pr0.20	Parameter name	Command	oulse edge selectio	on	Linked Mode	Р		
	realm	0 to 1	unit (of measure)		Standard factory setting	0		
Setting: Select command pulse edge								
setpoi	nt	descriptive						
0		Select command pulse count on rising edge						
1		Counting on the falling edge of the select command						
			puls	se				
Remarks: Re-energized to take effect!								

5.2.2 [Classification 1] Gain Adjustment

Pr1.00	Paramete r name	1st position	ring gain		Linked Mode	Р				
	Setting range	0~30000	unit (of measure)	0.1/s	Standard factory setting	320				
	Determines gain reduces careful.	Determines the responsiveness of the position control system. Setting a large value of position loop gain reduces positioning time. However, if the setting is too large, it may cause vibration, so be careful								

Pr1.01	Paramet er name	1st Speed L	.oop Gain		Linked Mode	е	Р	S	т
Pr1.01	Setting range	0~32767	unit (of measure)	0.1Hz	Standard setting	factory	180		
Attention →	Determines overall resp However, if If Pr0.04 ine	the speed lo onsiveness o the setting is ertia ratio is s	op responsive f the servo sy too large, it i et correctly, t	eness. To i stem, incr may cause hen Pr1.0	ncrease the p ease the settin vibration. 1 is set in (Hz)	osition loop ng of the sp	o gain and beed loop g	improve th gain value.	ıe

Pr1.02	Paramet er name	1st velocity l constant	oop integratio	on time	Linked Mode	Р	т	
	Setting range	0~10000	unit (of measure)	0.1m s	Standard factory setting	310		
Attention→	Set the spee the integrat approaches Set to "1000	ed loop integr ion effect, the zero at the tir 00" for no poir	ation time cor e greater the in ne of stopping nt effect.	nstant. Th mmunity g, but it is	e smaller the setting to interference, and th prone to vibration.	value, the he faster t	more pror he deviatio	າounced ວn value

D 4 92	Parameter name	1st Speed	Detection Filt	er	Link	ed Mode	Ρ	S	т
Pr1.03	Setting range	0~31	unit (of _ measure) _		Star sett	ndard factory ing	15		
After speed	detection, t	he time const	ant of the low	pass fi	ilter (Ll	PF) can be set to 3	2 stages (0	~ 31).	
A large sett responsiver	ing will resul ness. The filt	t in a large tim er parameters	ne constant, w can be set acc	hich re cording	educes g to the	motor noise but a speed loop gain a	lso decrea as shown ir	ses hthe table	below:
	setp oint	Speed De Cutoff Frequ	tection Filt ency (Hz)	er s	etp pint	Speed Detect Cutoff Frequency	ion Filte / (Hz)	er	
	0	2500		1	L6	750			
	1	2250		1	L7	700			
	2	2100		1	L8	650			
	3	2000		1	19	600			
	4	1800		2	20	550			
	5	1600		2	21	500			
	6	1500		2	22	450			
	7	1400		2	23	400			
	8	1300		2	24	350			
	9	1200		2	25	300			
	10	1100		2	26	250			
	11	1000		2	27	200			
	12	950		2	28	175			
	13	900		2	29	150			
	14	850		3	30	125			
	15	800		З	31	100			

Pr1.04	Parameter name	No. 1 Torqu	ue Filter		Linked Mode	Р	S	т		
	Setting range	0~2500	unit (of measure)	0.01 ms	Standard factory setting	126				
Sets the first-ord	Sets the first-order hysteresis filter time constant inserted into the torque command section.									
Vibration due to torsional resonance can be controlled.										

Pr1.10	Parameter name	Velocity Fe Gain	edforward Co	onstant	Linked Mode	Ρ		
	Setting range	0~1000	unit (of measure)	0.10%	Standard factory setting	300		

In the speed control instruction calculated from the internal position instruction, the value multiplied by the ratio of this parameter is added to the speed instruction from the position control processing.

Pr1.11	Parameter name	Feedforwa	ard filter time co	nstant	Linked Mode	Ρ		
	Setting range	0~6400	unit (of measure)	0.01ms	Standard factory setting	50		

Sets the time constant of the primary delay filter required for the speed feedforward input.

Example of using speed feedforward

When the velocity feedforward filter is set to 50 (0.5ms), the feedforward effect is gradually enhanced by gradually increasing the velocity feedforward gain. The position deviation in fixed-speed operation can be reduced by the following formula depending on the value of the velocity feedforward gain.

Position deviation [commanded units] = commanded speed [commanded units/s] / position loop gain [1/s] \times (100 - speed feedforward gain [%]) / 100

	Parameter name	Velocity Fee Window Pa	Linked Mode	Р	s						
Pr1.34	realm	0 to 31	unit (of measure)		Standard factory setting	0					
setpoint	descriptive										
0	Velocity feedb frequency = 12	Velocity feedback sampling window is 8, velocity feedback sampling frequency = 12000/8 = 1500Hz									
1	Speed feedback sampling window is 1, speed feedback sampling frequency = 12000/1 = 1200Hz										
2	Velocity feedb frequency = 12	Velocity feedback sampling window is 2, velocity feedback sampling frequency = 12000/2 = 6000Hz									
3	Speed feedbac = 12000/3 = 40	k sampling w 00Hz	indow is 3, spe	ed feedb	ack sampling frequency						
4	Speed feedbac = 12000/4 = 30	k sampling w 00Hz	indow is 4, spe	ed feedb	ack sampling frequency						
31	Speed feedback sampling window is 31, speed feedback sampling frequency = 12000/31 = 387Hz										
Note: 1200	e: 12000HZ is the PWM switching frequency.										

Pr1.37	Parameter name	Special F	unction Regist	ers	Linked Mode		
	realm	0 to 1	unit (of measure)		Standard factory setting	0	
Settings: Partial alarm b	plocking and sp	ecial funct	ion selection.				
setpoint	descriptive						
Pr1.37 & 0x01	= 0: Enable s feed-forward	peed feed filtering	-forward filter	ring; = <u>1</u>	1: Disable speed		
Pr1.37 & 0x02	= 0: enable to feed-forward						
Pr1.37 & 0x04	= 0: Enable r Er1A1 alarm	lock motor stall					
Pr1.37 & 0x08	= 0: Enable Er180 alarm	overshoot	Er180 alarm	; = 8:	Mask overshoot		
Pr1.37 & 0x10	=0: Enable o Er100 alarm	overload E	Er100 alarm;	=0x10:	Mask overload		
Pr1.37 & 0x20	= 0: dial inp function assig	ut functio nable	n not assigna	ble; =	0x20: dial input		
Pr1.37 & 0x40	=0: Mask dr disable Er260	ive disable alarm	e Er260 alarn	n; =0x4	0: Enable drive		
Pr1.37 & 0x400	=0: Mask u undervoltage	undervolta Er0D0 ala	ge Er0D0 al rm	larm; =	=0x400: Enable		

5.2.3 [Classification 2] Vibration Suppression





5.2.4 [Category 4] Monitor Settings

5.4.00	Parameter name	Servo forced en		Linked Mode	Р				
Pr4.08	realm	0 to unit (of				0x8383			
Setting: Whe	tting: Whether or not the servo is forced to be enabled when there is no external er								ut.
setpoint	descriptive	descriptive							
0x8383	Position mod	Position mode and velocity mode, servo power-up forced enable							
0x0383	Position mod power-on dis	le, servo power- able	on forced enal	ole; Ve	elocity mode, servo				
0x8303	Position mod power-on is f	le, servo power-o orced to be enab	on is not enab led.	led; Ve	elocity mode, servo				
0x303	Position mode and speed mode, servo power-up not enabled								
Remarks: Effective immediately!									

5.2.5 [Category 5] Extended Settings

D E 40	Parameter name	Overload Rat	ing Setting	Linked Mc	ode	Р				
Pr5.12	realm	0 to 250	250 unit (of % measure)			factory	0			
Setting: Mot	or overload ratir	ng								
The overload is calculated when the actual current is greater than the rated current* setting value. The smaller the setting value, the more likely it is that an overload alarm will be generated.										
setpoint	descriptive									
0	Default setting	g, indicating 11	5% overload r	ating						
Remarks:										
(1) Please modify according to the manufacturer's instructions!										
(2) Re-powering works!										

Pr5.13	Parameter name	Overspeed lev	el setting		Linked Mode	Р			
	realm	0 to 20000 unit (of measure) rpm			Standard factory setting	0			
Setting: Over	speed threshold.				·				
If the motor speed exceeds the Pr5.13 setting, the Er1AO alarm occurs and the red LED flashes periodically 1 short and 1 long. If the setting value is 0, the overspeed level is set to the maximum motor speed \times 1.2.									

5.5.24	Parameter name	Torque Limit	Mode	Linked Mode	Р				
Pr5.21	realm	0 to 4 unit (of measure) Standard factory setting					0		
Setting: Toro	g: Torque limiting mode selection								
setpoint	descriptive								
0	Maximum torq	ue limit comma	and from Pr0.	13					
1	Limit Maximun	n Torque comm	and from Pr5	.22					
other values	Maximum torq	Maximum torque limit command from Pr0.13							
Remarks: Re	Remarks: Re-powering is effective!								

Pr5.22	Parameter name	2nd Torque	Limit	_	Linked Mode P						
	realm	ealm 0 to 500 unit (of %			Standard factory setting	250					
Setting: 2	nd torque limit.										
Selection	Selection of torque limiting mode via pr5.21										
Remarks:	Remarks:										

5.2.6 [Category 6] Special settings

Pr6.01	Parameter name	Encoder z	ero position o	compensation	Linked Mode	Р					
	realm	0 to 360	unit (of measure)	degree (angles, temperature etc)	Standard factory setting	0					
Setting: Encoder zero compensation											
setpoint	descriptive										
Remarks: 0	Remarks: Cannot be modified!										

Pr6.12	Parameter name	Encoder zer limit setting	o correction to	orque	Linked Mode	Р		
	realm	0~100	unit (of measure)	%	Standard factory setting	25		
Setting: Encode								
setpoint	descriptive	descriptive						
0~100	Setting the m correction	naximum moʻ	tor current pe	ercentage	during encoder zero			
Remarks:								
(1) Non-modifiable								

5.2.7 [Category 7] Factory settings

0.745	Parameter name	Motor Mode	l Setting		Linked Mode		Р	S		
Pr7.15	realm	realm 0 to 3 unit (of Standard fac		Standard factory set	ing	1				
Setting: M	otor model, mu	st correspond	to the motor r	model o	one by one!					
setpoint	descriptive	escriptive								
0	Manual mod	ification of mo	tor parameter	s: Pr7.0	0 to Pr7.18					
1	iSV5709V361	-01- 1000								
2	iSV5713V361	-01- 1000								
3	iSV5718V361	SV5718V36T-01- 1000								
Remarks:	·									
(1) Re-pov	(1) Re-powering works!									

	Parameter name	Encoder line	number settir	Ig	Linked Mode	Р	S				
Pr7.16	realm	0 to 2	unit (of measure)				Standard factory setting	0			
Setting: Nu	mber of encod	er lines									
setpoint	descriptive										
0	default settin	g									
Remarks:											
(1) Re-pow	vering works!										

D-7.47	Parameter name	Maximum mo	otor current		Linked Mode	Р	S		
Pr7.17	realm	0 to 500	unit (of measure)	%	Standard factory setting	250			
Setting: Ma	aximum motor	current							
setpoint	descriptive								
250	60 default setting								
Remarks: (1) Non-modifiable									

D 7 00	Parameter name	Motor Zer	o Detection Contro	bl	Linked Mode	Р	S	
Pr7.23	realm	0/15	unit (of		Standard factory setting	15		

Setting: Wh	ether or not the power-up drive is looking for an electromechanical angle	e zero posi	tion.					
setpoint	descriptive							
0	The drive is powered up and rotates through one revolution to find the electromechanical angular zero position. When this is done, the shaft is locked and Pr7.23 is set to 15.							
15	Direct shaft lock on drive power-up							
Remarks:								
(1) No other values may be set!								
(2) Re-powe	2) Re-powering works!							

D.7.20	Parameter name	Percentage of braking			Linked Moo	le	Ρ	S	
Pr7.28	realm	-200~200	unit (of measure)		Standard setting	factory	0		
Setting: Pe	ercentage of dr	ive pumping i	nhibition.						
Remarks:									
(1) Setting	(1) Setting value to meet the requirements can be; set too large, easy to cause the drive alarm.								
(2) Re-pov	(2) Re-powering works!								

Pr7.30	Parameter name	DC bus unde setting	ervoltage point		Linked Mode	Ρ	S	
	realm	15 to 60	unit (of measure)	V	Standard factory setting	16		
Setting: W	ng: Whether to alarm when the DC bus voltage is lower		lower t	han the set voltage				
Remarks: Re-powering is effective!								

	Parameter name	Reactive setting	pump up inhibit f	unction	Linked Mode	Р	S	т
Pr7.31	realm	0 to 1	unit (of measure)		Standard factory setting	0		
Setting: Wh	nether or not to	o enable re	active pumping in	hibition				
setpoint	descriptive							
0	Turn off the b	orake funct	ion					
1	Enables reac Pr7.32, Pr7.3	tive pumpi 3	parameters Pr7.28,					
2	External brak	e function						
Remarks:								

	Parameter name	braking v	oltage		Linked Mode	Р	S	
Pr7.32	realm	0~72	unit (of measure)	v	Standard factory setting	50		
Setting: Er Pr7.28	nable pumping i	nhibit func	tion when DC bu	s volta	ge is greater than this val	ue, inhib	it percen	itage =

Remarks: Re-powering is effective!

Dr7 33	Parameter name	braking h	ysteresis		Linked Mode	Р	S			
Pr7.33	realm	0~36	unit (of measure)	v	Standard factory setting	1				
Setting: Di	sable pumping i	nhibit whe	en DC bus voltage i	is lowe	r than Pr7.32-Pr7.33.					
Remarks:	Remarks:									
(1) The Pr	(1) The Pr7.32-Pr7.33 value must not be lower than the operating voltage value.									
(2) Re-pov	(2) Re-powering works!									

Pr7.34	Parameter name	DC bus over setting	rvoltage point		Linked Mode	Ρ	S	
	realm	36 to 75	unit (of measure)	v	Standard factory setting	75		
Setting: W	hether to alarm	when the D	C bus voltage is hi	igher	than the set voltage	-		
Remarks: Re-powering is effective!								