Shihlin

Shihlin Electric General Inverter SA3 Series
Parameters Instruction

V1.05-03

High Functioning & High Performance

SA3-023-0.75K/1.5KF ~ 110K/132KF
SA3-043-0.75K/1.5KF ~ 315K/355KF

Thank you for choosing Shihlin inverter SA3 series.
This instruction provides the parameter list for SA3 series. User can refer to setting range and factory setting value of each parameter in order to adjust the inverter. Before adjusting parameters, please be sure to carefully read Installation Instruction, so that the inverter can be used in right and safe way.

*Actual maximum output frequency is 599Hz, Even if the parameter setting exceeds 599Hz, the maximum output frequency is still 599Hz.

1) System Parameter Group 00

Group	No.	Name	Setting Range	Default	User Setting
00-00	P.90	Inverter model	Read only	Read only	
00-01	P.188	Firmware version	Read only	Read only	
00-02	P.996 ~ P.999	Parameter restoration	0: Off 1: Clear alarm history (P.996=1) 2: Reset inverter (P.997=1) 3: Restore all parameters to default (P.998=1) 4: Restore some parameters to default 1 (P.999=1) 5: Restore some parameters to default 2 (P.999=2) 6: Restore some parameters to default 3 (P.999=3)	0	
00-03	P.77	Selection of parameters write protection	0: Parameters can be written only when the motor stops. 1: Parameters cannot be written. 2: Parameters can also be written when the motor is running. 3: Parameters cannot be read when in password protection.	0	
00-04	P.294	Password parameter	0~65535	0	
00-05	P.295	Password setup	2~65535	0	
00-06	P.110	Keypad monitor selection	X0: When inverter starts, keypad enters monitor mode automatically, screen displays output frequency. X1: When inverter starts, screen displays target frequency. X2: When inverter starts, keypad enters monitor mode automatically, screen displays current pressure and feedback pressure of the constant pressure system in percentage. X5: When inverter starts, keypad enters monitor mode automatically,screen displays current pressure and feedback pressure of the constant pressure system.(valid with PU301C). 0X：Boot screen monitors output frequency 1X：Boot screen is in target frequency setting mode 2X：Boot screen monitors output current 3X：Boot screen monitors output voltage	1	
00-07	P.161	Multi-function display	0: Output AC voltage (V) 1: Voltage between (+/P) and (-/N) terminals. (V) 2: Inverter temperature rising accumulation rate (%) 3: Target pressure of the constant pressure system (Unit set by 08-44(P.252)) 4: Feedback pressure of the constant pressure system (Unit set by 08-44(P.252)) 5: Running frequency (Hz) 6: Electronic thermal accumulation rate (%) 7: Signal value (V) of 2-5 input terminals. 8: Signal value (mA) of 4-5 input terminals (mA/V). 9: Output power (kW). 10: PG card feedback rotation speed. (Hz) 11: Forward reverse rotation signal. 1: forward rotation 2: reverse rotation 0: stop. 12: NTC temperature (℃) 13: Motor electronic thermal accumulation rate (%) 14: Reserved. 15: Input frequency of terminal HDI. (kHz) 16: Real-time roll diameter. (mm) 17: Real-time line speed. (m/min) 18: Output torque of inverter (%)(Valid only when 00-21 (P. 300) or 00-22 (P. 370) is set to 3 ~ 6) 19: Digital terminal input state 20: Digital terminal output state 21: Actual working carrier frequency 22: Signal value (mA) of 3-5 input terminals. (mA/V) 23: Synchronous motor rotor pole position (Show motor rotor magnetic pole position from encoder feedback, valid when 00-21 (P. 300) = 5) 24: Current target frequency 25: PTC input percentage 26: Target pressure and feedback pressure from the constant pressure system 27: Motor rotation speed 28: Power factor 29: Power accumulation rate (kwh) 30: PG feedback rotation speed 31: Motor rotor position (Z pulse as 0) 32: PG card feedback A1 B1 pulse count 33: PG card feedback A2 B2 pulse count	0	
00-08	P.37	Speed display	0: Display output frequency(not mechanical speed) 1~50000 1~9999	0.0	
00-09	P.259	Multi-function display unit selection	X0: Speed display unit is 1 X1: Speed display unit is 0.1 0X: Power accumulation rate unit is 1 1X: Power accumulation rate unit is 0.1 2X: Power accumulation rate unit is 0.01	1	
00-11	P.72	Carrier frequency	Frame A/B/C: 1~15KHz Frame D/E: 1~9 kHz Frame F/G: 1~9 kHz Frame H: 1~3 kHz	5 kHz 4 kHz 2 kHz 2 kHz	
00-12	P.31	Soft-PWM carrier function selection	0: Off 1: When 00-11(P.72)< 5, Soft-PWM is on (only apply to V/F control)	0	
00-13	P.71	Idling brake / DC brake	0: Idling brake 1: DC brake	1	
00-14	P.75	Stop function selection	0: Press STOP button and inverter stop running in PU and H2 mode 1: Press STOP button and inverter stop running in all mode.	1	
00-15	P.78	Prevent forward/reverse rotation selection	0: Forward/reverse rotation are both permitted. 1: Prevent reverse rotation (Giving reverse signal decelerates and stops the motor). 2: Prevent forward rotation (Giving forward signal decelerates and stops the motor).	0	
00-16	P.79	Operation mode selection	0: "PU mode", "external mode" and "Jog mode" are interchangeable. 1: "PU mode" and "JOG mode" are interchangeable. 2: "External mode" only 3: "Communication mode" only 4: "Combined mode 1" 5: "Combined mode 2" 6: "Combined mode 3" 7: "Combined mode 4 8: "Combined mode 5" 99999: Second operation mode, run command is set by 00-18(P.109), target frequency is set by 00-17(P.97)	0 0	
00-17	P.97	Second target frequency selection	0: Frequency set by keypad 1: Frequency set by RS485 communication 2: Frequency set by analog input 3: Frequency set by communication expansion card 4: Frequency set by PG card A2 B2 5: Frequency set by HDI pulse	0	
00-18	P.109	Second start signal selection	0: Start signal set by keypad 1: Start signal set by digital input terminal 2: Start signal set by RS485 communication 3: Start signal set by communication expansion card	0	
00-19	P.35	Communication mode selection	0: In communication mode, run signal and frequency is given by communication. 1: In communication mode, run signal and frequency is given by external signal.	0	
00-20	P.400	Control mode selection	0: Speed control 1: Torque control 2: Position control	0	
00-21	P.300	Motor control mode selection	0: Induction motor V/F control 1: Induction motor closed-loop V/F control (VF + PG) 2: Induction motor simple vector control 3: Induction motor sensorless vector control 4: Induction motor PG vector control 5: Synchronous motor PG vector control 6: Synchronous motor vector control without PG	0	
00-22	P.370	Second motor control mode selection	0: Induction motor V/F control 1: Induction motor close-loop V/F control (VF+PG) 2: Induction motor simple vector control 3: Induction motor sensorless vector control 4: Induction motor PG vector control 5: Synchronous motor PG vector control 6: Synchronous motor vector control without PG 99999: Off	99999	
00-23	P.186	Motor types selection	0: Normal Duty (ND), on fan and pump duty type. 1: Heavy Duty (HD), apply to other duties.	1	
00-24	P.189	50Hz/60Hz switch selection	0: Frequency related parameter default value is 60Hz. 1: Frequency related parameter default value is 50Hz.	0 1	
00-25	P.990	Parameter display mode setting	0: Parameter is displayed in "group mode" 1: Parameter is displayed in "sequence P mode"	0	
00-26	P.125	Expansion card type	Read only	Read only	

2) Basic Parameter Group 01

Group	No.	Name	Setting Range	Default	User Setting
01-00	P.1	Maximum frequency	55K/75KF and below: 0.00~01-02 (P.18)Hz 75K/90KF and above: 0.00~01-02 (P.18)Hz	120Hz 60Hz	
01-01	P.2	Minimum frequency	0 ~ 120.00Hz	0.00Hz	
01-02	P.18	High-speed maximum frequency	01-00(P.1) ~ 650.00Hz	120Hz	
01-03	P.3	Base frequency	50Hz system setting: 0 ~ 650.00Hz 60Hz system setting: 0 ~ 650.00Hz	50.00Hz 60.00Hz	
01-04	P.19	Base voltage	0 ~ 1000.0V 99999: Change according to the input voltage	99999	
01-05	P.29	Acceleration/deceleration curve selection	0: Linear acceleration /deceleration curve 1: S shape acceleration /deceleration curve 1 2: S shape acceleration /deceleration curve 2 3: S shape acceleration /deceleration curve 3	0	
01-06	P.7	Acceleration time	3.7K/5.5KF and below: 0 ~ 360.00s/0 ~ 3600.0s 5.5K/7.5KF and above: 0~360.00s/0 ~ 3600.0s	5.00s 20.00s	
01-07	P.8	Deceleration time	3.7K/5.5KF and below: 0 ~ 360.00s/0 ~ 3600.0s 5.5K/7.5K~7.5K/11KF: 0 ~ 360.00s/0 ~ 3600.0s 11K/15KF and above: 0 ~ 360.00s/0 ~ 3600.0s	5.00s 10.00s 30.00s	
01-08	P.21	Acceleration/deceleration time increments	0: Time increment is 0.01s 1: Time increment is 0.1s	0	
01-09	P.20	Acceleration/deceleration reference frequency	50Hz system setting: 1.00 ~ 650.00Hz 60Hz system setting: 1.00 ~ 650.00Hz	50.00Hz 60.00Hz	
01-10	P.0	Torque boost	0.75K/1.5KF: 0 ~ 30.0% 1.5K/2.2KF ~ 3.7K/5.5KF: 0 ~ 30.0% 5.5K/7.5KF ~ 7.5K/11KF: 0 ~ 30.0% 11K/15KF ~ 55K/75KF: 0 ~ 30.0% 75K/90KF and above: 0 ~ 30.0%	6.0% 4.0% 3.0% 2.0% 1.0%	
01-11	P.13	Starting frequency	0 ~ 60.00Hz	0.50Hz	
01-12	P.14	Load pattern selection	0: For constant torque loads (conveyor belt,etc.) 1: For variable torque loads (fans and pumps, etc.) 2、3: For Lifting loads 4: Multipoint V/F curve 5~13: Special two-point V/F curve 14: V/F complete detached mode 15: V/F semidetached mode	0	
01-13	P.15	JOG frequency	0 ~ 650.00Hz	5.00Hz	
01-14	P.16	JOG Acc/ Dec time	0 ~ 360.00s/0 ~ 3600.0s	0.50s	
01-15	P.28	Output frequency filter time	0 ~ 1000ms	0ms	
01-16	P.91	Frequency jump 1A	0 ~ 650.00Hz 99999: Off	99999	
01-17	P.92	Frequency jump 1B	0 ~ 650.00Hz 99999: Off	99999	
01-18	P.93	Frequency jump 2A	0 ~ 650.00Hz 99999: Off	99999	
01-19	P.94	Frequency jump 2B	0 ~ 650.00Hz 99999: Off	99999	
01-20	P.95	Frequency jump 3A	0 ~ 650.00Hz 99999: Off	99999	
01-21	P.96	Frequency jump 3B	0 ~ 650.00Hz 99999: Off	99999	
01-22	P.44	Second acceleration time	0 ~ 360.00s/0 ~ 3600.0s 99999: Off	99999	
01-23	P.45	Second deceleration time	0 ~ 360.00s/0 ~ 3600.0s 99999: Off	99999	
01-24	P.46	Second torque boost	0 ~ 30.0% 99999: Off	99999	
01-25	P.47	Second base frequency	0 ~ 650.00Hz 99999: Off	99999	
01-26	P.98	Middle frequency 1	0 ~ 650.00Hz	3.00Hz	
01-27	P.99	Output voltage 1 of middle frequency	0 ~ 100.0%	10.0%	
01-28	P.162	Middle frequency 2	0 ~ 650.00Hz 99999: Off	99999	
01-29	P.163	Output voltage 2 of middle frequency	0 ~ 100.0%	0.0%	
01-30	P.164	Middle frequency 3	0 ~ 650.00Hz 99999: Off	99999	
01-31	P.165	Output voltage 3 of middle frequency	0 ~ 100.0%	0.0%	
01-32	P.166	Middle frequency 4	0 ~ 650.00Hz 99999: Off	99999	
01-33	P.167	Output voltage 4 of middle frequency	0 ~ 100.0%	0.0%	
01-34	P.168	Middle frequency 5	0 ~ 650.00Hz 99999: Off	99999	
01-35	P.169	Output voltage 5 of middle frequency	0 ~ 100.0%	0.0%	
01-36	P.255	S curve time at the beginning of acceleration	0 ~ 25.00s/0 ~ 250.0s	0.20s	
01-37	P.256	S curve time at the end of acceleration	0 ~ 25.00s/0 ~ 250.0s 99999: Off	99999	
01-38	P.257	S curve time at the beginning of deceleration	0 ~ 25.00s/0 ~ 250.0s 99999: Off	99999	
01-39	P.258	S curve time at the end of deceleration	0 ~ 25.00s/0 ~ 250.0s 99999: Off	99999	

3) Analog Input and Output Parameter Group 02

Group	No.	Name	Setting Range	Default	User Setting
02-00	P.500	Terminal 2-5 input function	0: Off 1: Frequency command 2: Torque command 3: PID target value 4: PID feedback signal 5: Tension target value 6: Line speed 7: Line speed feedback 8: Real-time roll diameter 9: Initial roll diameter 10: Material thickness 11: PTC thermistor 12: PT100 thermistor 13: VF seperate function 14: Positive torque limit 15: Negative torque limit 16: Positive/Negative torque limit 17: Regenerative torque limit	1 1	
02-01	P.501	Terminal 4-5 input function	Same as 02-00	1	
02-02	P.504	Terminal 3-5 input function	Same as 02-00	0	
02-03	P.503	Terminal HDI input function	Same as 02-00	0	
02-04	P.54	Terminal AM1 output function	0: Output frequency, use 02-51 (P.55) value as 100%. 1: Output current, use 02-52 (P.56) value as 100%. 2: Output DC bus voltage, use the OV trigger voltage as 100%. 3: Output inverter temperature accumulate rising rate, use NTC trigger level as 100%. 4: Output inverter thermal relay accumulate rate, use the digital thermal relay trigger level (06-00 (P.9) ≠ 0) or the thermal relay on IGBT trigger level (06-00 (P.9) = 0) as 100%. 5: Target frequency, use 02-51(P.55) value as 100%. 6: Fixed output, voltage or current output level can be set by 02-54 (P.541) 7: Output voltage, use inverter rated voltage as 100% 8: Excitation current, use motor rated current as 100%. (Valid only when 00-21(P.300) or 00-22 (P.370) is set to 3~6) 9: Output torque, use two times motor rated torque as 100%.(Valid only when 00-21 (P.300) or 00-22 (P.370) is set to 3~6) 10: Output power, use two times motor rated power as 100%. 11: High-speed pulse input, use 100KHz as 100%. 12: Motor speed, use 02-51 (P.55) as 100% 13 : PLC analog output, for details please refer to SA3 built-in PLC manual	0	
02-05	P.537	Terminal AM2 output function	6: Fixed output, voltage or current output level can be set by 02-53(P.539). 0~5, 7~13: Same as 02-04.	0	
02-06	P.185	Proportional linkage gain	0 ~ 100%	0%	
02-07	P.240	Auxiliary frequency	0: Off 1: Output frequency = basic frequency + auxiliary frequency (given by terminal 2-5) 2: Output frequency = basic frequency + auxiliary frequency (given by terminal 4-5) 3: Output frequency = basic frequency - auxiliary frequency (given by terminal 2-5) 4: Output frequency = basic frequency - auxiliary frequency (given by 4-5 terminal) 5: Output frequency = proportional linkage signal (given by terminal 2-5) 6: Output frequency = proportional linkage signal (given by terminal 4-5) 7: Output frequency = proportional linkage signal (given by terminal 3-5) 8: Output frequency = basic frequency + auxiliary frequency (given by terminal 3-5) 9: Output frequency = basic frequency - auxiliary frequency (given by terminal 3-5)	0	
02-08	P.73	Terminal 2-5 signal range selection	0: Signal sampling range from 0 ~5V. 1: Signal sampling range from 0 ~10V. 2: Signal sampling range from 0 ~ -5V. 3: Signal sampling range from 0 ~ -10V. 4: Signal sampling range from -5 ~ +5V. 5: Signal sampling range from -10 ~ +10V.	1	

02-09	P.38	Terminal 2-5 maximum running frequency	50Hz system: 1.00～650.00Hz	50.00Hz	
			60Hz system: 1.00～650.00Hz	60.00Hz	
02-10	P.60	Terminal 2-5 filter time	0～2000ms	30ms	
02-11	P.139	Terminal 2-5 voltage signal bias rate	-100.0%~100.0%	0.0%	
02-12	P.192	Terminal 2-5 minimum input positive voltage	0～10.00V	0.00V	
02-13	P.193	Terminal 2-5 maximum input positive voltage	0～10.00V	10.00V	
02-14	P.194	Percentage corresponds to terminal 2-5 minimum positive voltage	-100.0%～100.0%	0.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-15	P.195	Percentage corresponds to terminal 2-5 maximum positive voltage	-100.0%～100.0%	100.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-16	P.512	Terminal 2-5 minimum input negative voltage	0～10.00V	0.00V	
02-17	P.513	Terminal 2-5 maximum input negative voltage	0～10.00V	0.00V	
02-18	P.510	Percentage corresponds to terminal 2-5 minimum negative voltage	-100.0%～100.0%	0.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-19	P.511	Percentage corresponds to terminal 2-5 maximum negative voltage	-100.0%～100.0%	0.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-20	P.17	Terminal 4-5 signal range selection	0: Signal sampling range from 4~20mA.	0	
			1: Signal sampling range from 0～10V.		
			2: Signal sampling range from 0～5V.		
02-21	P.39	Terminal 4-5 maximum operation frequency	50Hz system: 1.00～650.00Hz	50.00Hz	
			60Hz system: 1.00～650.00Hz	60.00Hz	
02-22	P.528	Terminal 4-5 filter time	0～2000ms	30ms	
02-23	P.505	Terminal 4-5 current/ voltage signal bias rate	-100.0%～100.0%	0.0%	
02-24	P.184	Terminal 4-5 disconnect selection	0: Off	0	
			1: Inverter decelerates to 0Hz, muti-function digital output terminal set off alarm		
			2: Inverter stops immediately, and keypad displays “AEr” alarm		
			3: Inverter runs continuously according to the frequency reference before disconnection. Digital output terminal will set off alarm.	0	
02-25	P.198	Terminal 4-5 minimum input current/ voltage	0～20.00mA	4.00mA	
02-26	P.199	Terminal 4-5 maximum input current/ voltage	0～20.00mA	20.00mA	
02-27	P.196	Percentage corresponds to terminal 4-5 minimum input current/ voltage	-100.0%～100.0%	0.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-28	P.197	Percentage corresponds to terminal 4-5 maximum input current/ voltage	-100.0%～100.0%	100.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-29	P.531	Terminal 3-5 signal range selection	0: Signal sampling range from 4～20mA	1	
			1: Signal sampling range from 0～10V		
			2: Signal sampling range from 0～5V		
02-30	P.508	Terminal 3-5 maximum operation frequency	50Hz system: 1.00～650.00Hz	50.00Hz	
			60Hz system: 1.00～650.00Hz	60.00Hz	
02-31	P.527	Terminal 3-5 filter time	0～2000ms	30ms	
02-32	P.507	Terminal 3-5 current/voltage signal bias rate	-100.0%～100.0%	0.0%	
02-33	P.545	Terminal 3-5 disconnect selection	0: Off	0	
			1: Inverter decelerates to 0Hz, muti-function digital output terminal set off alarm		
			2: Inverter stops immediately, and keypad displays “AEr” alarm		
			3: Inverter runs continuously according to the frequency reference before disconnection. Digital output terminal will set off alarm.		
02-34	P.548	Terminal 3-5 minimum input current/ voltage	0～10.00V	0.00V	
02-35	P.549	Terminal 3-5 maximum input current/ voltage	0～10.00V	10.00V	
02-36	P.546	Percentage corresponds to terminal 3-5 minimum input current/ voltage	-100.0%～100.0%	0.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-37	P.547	Percentage corresponds to terminal 3-5 maximum input current/ voltage	-100.0%～100.0%	100.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-38	P.526	Terminal HDI filter time	0～2000ms	10ms	
02-39	P.524	Terminal HDI minimum input frequency	0～100.00kHz	0.00kHz	
02-40	P.525	Terminal HDI maximum input frequency	0～100.00kHz	100.00kHz	
02-41	P.522	Percentage corresponds to terminal HDI minimum input frequency	-100.0%～100.0%	0.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-42	P.523	Percentage corresponds to terminal HDI maximum input frequency	-100.0%～100.0%	100.0%	
			-400.0%～400.0%（P.500= 2/14/15/16/17）		
02-43	P.74	Terminal HDO clock multiplier factor	0: Select FM function as the output function of terminal HDO.	0	
			1～9000: Select the square-wave pulse which is 02-43(P.74) times of running frequency as the output of terminal		
02-44	P.543	Terminal FM output function selection	0: Output frequency, use 02-51 (P.55) value as 100%.	0	
			1: Output current, use 02-52 (P.56) value as 100%.		
			2: Output DC bus voltage, use the OV trigger voltage as 100%.		
			3: Output inverter temperature accumulate rising rate, use NTC trigger level as 100%.		
			4: Output inverter thermal relay accumulate rate, use the digital thermal relay trigger level（06-00（P.9）≠ 0）or the thermal relay on IGBT trigger level（06-00 (P.9) = 0) as 100%.		
			5: Target frequency, use 02-51(P.55) value as 100%.		
			6: Fixed output, voltage or current output level can be set by 02-54 (P.541)		
			7: Output voltage, use inverter rated voltage as 100%		
			8: Excitation current, use motor rated current as 100%. (Valid only when 00-21(P.300) or 00-22 (P.370) is set to 3~6)		
			9: Output torque, use two times motor rated torque as 100%.(Valid only when 00-21 (P.300) or 00-22 (P.370) is set to 3~6)		
			10: Output power, use two times motor rated power as 100%.		
			11: High-speed pulse input, use 100KHz as 100%.		
			12: Motor speed, use 02-51 (P.55) as 100%		

02-45	P.64	Terminal AM1 output signal selection	0: Output 0~10V across terminal AM1-5.	0	
			2: Output 0~20mA across AM1-5.		
			3: Output 4~20mA across AM1-5.		
02-46	P.191	Terminal AM1 output gain	0～5000	3210	
02-47	P.190	Terminal AM1 output bias	0～5000	18	
02-48	P.538	Terminal AM2 output signal selection	Same as 02-45	0	
02-49	P.536	Terminal AM2 output gain	0～5000	3210	
02-50	P.535	Terminal AM2 output bias	0～5000	18	
02-51	P.55	Maximum analog output frequency reference	50Hz system: 1.00～650.00Hz	50.00Hz	
			60Hz system: 1.00～650.00Hz	60.00Hz	
02-52	P.56	Maximum analog output current reference	0~500.00A: below Frame G	According to frame	
			0~5000.0A: Frame G and above		
02-53	P.539	Terminal AM2 fixed output level	0～100.0%	0.0%	
02-54	P.541	Terminal AM1/FM fixed output level	0～100.0%	0.0%	
02-55	P.592	PT100 thermistor voltage level 1	0～10.00V	5.00V	
02-56	P.593	PT100 thermistor voltage level 2	0～10.00V	7.00V	
02-57	P.594	PT100 thermistor level 1 frequency	0～650.00Hz	0.00Hz	
02-58	P.595	PT100 thermistor level 1 delay time	0～6000s	60s	
02-59	P.187	FM calibration coefficient	0～9998	450	

4) Digital Input/ Output Parameter Group 03

Group	No.	Name	Setting Range	Default	User Setting
03-00	P.83	Terminal STF input function	0: STF(Inverter runs forward)	0	
			1: STR(Inverter runs reverse)		
			2: RL(Multi-speed low speed)		
			3: RM(Multi-speed medium speed)		
			4: RH(Multi-speed high speed)		
			5:AU(Analog terminal 4-5 high priority)		
			6: External thermal relay actuate		
			7: MRS(Stops inverter output immediately)		
			8: RT(Inverter second function)		
			9: EXT(External JOG)		
			10: STF+EXJ		
			11: STR+EXJ		
			12: STF+RT		
			13: STR+RT		
			14: STF+RL		
			15: STR+RL		
			16: STF+RM		
			17: STR+RM		
			18: STF+RH		
			19: STR+RH		
			20: STF+RL+RM		
			21: STR+RL+RM		
			22: STF+RT+RL		
			23: STR+RT+RL		
			24: STF+RT+RM		
			25: STR+RT+RM		
			26: STF+RT+RL+RM		
			27: STR+RT+RL+RM		
			28: RUN(Inverter runs forward)		
			29: STF/STR(use with RUN signal,when ON, motor runs reverse； when OFF, motor runs forward)		
			30: RES(External reset function)		
			31: STOP(Use as three line control with RUN signal and STF-STR signal)		
			32: REX(Extend multi-speed to 16 levels)		
			33: PO(In “external mode”, run programmed operation)		
			34: RES_E (External reset, valid only when alarm.)		
			35: MPO (In “external mode” run manual cycle operation.)		
			36: TRI(Triangle wave function)		
			37: GP_BP (Automatic switch between inverter and commercial power-supply.)		
			38: CS(Manual switch to commercial power supply)		
			39: STF/STR +STOP (Use with RUN signal, when ON, motor runs reverse,when OFF, motor stops then runs forward.)		
			40: P_MRS (Stops inverter output immediately by pulse signal input)		
			41: PWM set frequency(Note 1)		
			42: Reserved		
			43: RUN_EN (Enable digital input terminal operation)		
			44: PID_OFF (Enable digital input terminal turning off PID)		
			45: Second mode		
			46: Initial roll radius selection 1		
			47: Initial roll radius selection 2		
			48: Thickness selection 1		
			49: Thickness selection 2		
			50: Winding unwinding switch		
			51: Pre-drive command		
			52: Save torque value		
			53: Save torque value enable		
			54: Revs counting signal (note1)		
			55: Speed/Torque control switch		
03-00	P.83	Terminal STF input function	56: Roll radius reset	0	
			57: High-speed pulse input function (note1)		
			58: Analog terminal 2-5 high priority		
			59: Analog terminal 3-5 high priority		
			60: Built-in PLC start/stop		
			61: SHOM (Homing enable)		
			62: ORGP (Set homing point)		
			63: Position/Speed control switch		
			64: External zero-servo switch		
			65: External accelerate/decelerate pause		
			66: External forced stop		
			67：Roll diameter calculation stop		
			68：Enable single point positioning		
			69：Enable multipoint positioning		
			70 :Enable entire position control by pulse input command		
			71：External torque command polarity reverse		
			99999：Off		
03-01	P.84	Terminal STR input function	Same as 03-00	1	

03-02	P.86	Terminal RES input function	Same as 03-00	30	
03-03	P.80	Terminal M0 input function	Same as 03-00	2	
03-04	P.81	Terminal M1 input function	Same as 03-00	3	
03-05	P.82	Terminal M2 input function	Same as 03-00	4	
03-06	P.126	Terminal M3 input function	Same as 03-00	5	
03-07	P.127	Terminal M4 input function	Same as 03-00	8	
03-08	P.128	Terminal M5 input function	Same as 03-00	7	
03-09	P.550	Terminal HDI input function	Same as 03-00	57	
03-10	P.40	Terminal SO1-SE output function	0: RUN(Output when inverter running)	1	
			1: SU(Output when reach target frequency)		
			2: FU(Output when reach 03-21 03-22 value)		
			3: OL(Output when overload)		
			4: OMD(Output when output current is zero)		
			5: ALARM(Output when alarm)		
			6: PO1(Output when in program operation step)		
			7: PO2(Output when in program operation cycle)		
			8:PO3(Output when in program operation pause)		
			9: BP(Output when use inverter output in function : switch between inverter and commercial power-supply)		
			10: GP(Output when use commercial power-supply in function : switch between inverter and commercial power-supply)		
			11：OMD1(Output when output current is zero 1)		
			12～15: Reserved		
			16: Output when cooling-fan is damaged		
			17: RY(Output when inverter is powered on and no alarm)		
			18: Output when it’s time for maintenance		
			19: OL2 (Output when overload 2)		
			20: Output when capacitor abnormal		
			21:Output when in position control reach position		
			22：Output when detect curl in tension control		
			23：Output when detect power marker		
			41: PID feedback disconnection alarm		
03-11	P.85	Terminal A1-B1-C1 output function	Same as 03-10	5	
03-12	P.129	Terminal SO2-SE output function	Same as 03-10	2	
03-13	P.130	Terminal A2-B2-C2 output function	Same as 03-10	0	
03-14	P.87	Digital input logic	0～1023	0	
03-15	P.88	Digital output logic (with expansion card)	0～4095	0	
03-16	P.120	Output signal delay time	0～3600.0s	0.0s	
03-17	P.157	Digital input terminal filter time	0～2000ms	4ms	
03-18	P.158	Digital input terminal enable when power on	0: When power on digital terminals work directly	0	
			1: When power on digital terminals work after switch off then on	0	
03-20	P.41	Output frequency detection sensitivity	0～100.0%	10.0%	
03-21	P.42	Output frequency detection for forward rotation	0～650.00Hz	6.00Hz	
03-22	P.43	Output frequency detection for reverse rotation	0～650.00Hz	99999	
			99999: Same as the setting of 03-21(P.42)		
03-23	P.62	Zero current detection level	0～200.0%	5.0%	
			99999: Off		
03-24	P.63	Zero current detection time	0～100.00s	0.50s	
			99999: Off		
03-25	P.551	Expanded digital input terminal M10(Slot3)	Same as 03-00	99999	
03-26	P.552	Expanded digital input terminal M11(Slot3)	Same as 03-00	99999	
03-27	P.553	Expanded digital input terminal M12(Slot3)	Same as 03-00	99999	
03-28	P.554	Expanded digital input terminal M13(Slot3)	Same as 03-00	99999	
03-29	P.555	Expanded digital input terminal M14(Slot3)	Same as 03-00	99999	
03-30	P.556	Expanded digital input terminal M15(Slot3)	Same as 03-00	99999	
03-33	P.559	Expanded digital input terminal M10(Slot2)	Same as 03-00	99999	
03-34	P.560	Expanded digital input terminal M11(Slot2)	Same as 03-00	99999	
03-35	P.561	Expanded digital input terminal M12(Slot2)	Same as 03-00	99999	
03-36	P.562	Expanded digital input terminal M13(Slot2)	Same as 03-00	99999	
03-37	P.563	Expanded digital input terminal M14(Slot2)	Same as 03-00	99999	
03-38	P.564	Expanded digital input terminal M15(Slot2)	Same as 03-00	99999	
03-41	P.567	Expanded digital input terminal negative/positive logic (Slot2&3)	0～65535	0	
03-42	P.568	Expanded digital output terminal A10(Slot3)	Same as 03-10	99999	
03-43	P.569	Expanded digital output terminal A11(Slot3)	Same as 03-10	99999	
03-44	P.570	Expanded digital output terminal A12(Slot3)	Same as 03-10	99999	
03-45	P.571	Expanded digital output terminal A13(Slot3)	Same as 03-10	99999	
03-46	P.572	Expanded digital output terminal A14(Slot3)	Same as 03-10	99999	
03-47	P.573	Expanded digital output terminal A15(Slot3)	Same as 03-10	99999	
03-48	P.574	Expanded digital output terminal A16(Slot3)	Same as 03-10	99999	
03-49	P.575	Expanded digital output terminal A17(Slot3)	Same as 03-10	99999	
03-50	P.576	Expanded digital output terminal A10(Slot2)	Same as 03-10	99999	
03-51	P.577	Expanded digital output terminal A11(Slot2)	Same as 03-10	99999	
03-52	P.578	Expanded digital output terminal A12(Slot2)	Same as 03-10	99999	
03-53	P.579	Expanded digital output terminal A13(Slot2)	Same as 03-10	99999	
03-54	P.580	Expanded digital output terminal A14(Slot2)	Same as 03-10	99999	
03-55	P.581	Expanded digital output terminal A15(Slot2)	Same as 03-10	99999	
03-56	P.582	Expanded digital output terminal A16(Slot2)	Same as 03-10	99999	
03-57	P.583	Expanded digital output terminal A17(Slot2)	Same as 03-10	99999	
03-58	P.584	Expanded digital output terminal negative/positive logic (Slot2)	0～255	0	
03-59	P.585	Monitor inverter digital input terminal state	Read only	Read	
03-60	P.586	Monitor inverter and Slot3 digital output terminal state	Read only	Read	
03-61	P.587	Monitor Slot2&3 digital input terminal state	Read only	Read	
03-62	P.588	Monitor Slot2 digital output terminal state	Read only	Read	

5) Multi-speed Parameter Group 04

Group	No.	Name	Setting Range	Default	User Setting
04-00	P.4	Speed 1 (high speed)	0 ~ 650.00Hz	60.00Hz	
04-01	P.5	Speed 2 (medium speed)	0 ~ 650.00Hz	30.00Hz	
04-02	P.6	Speed 3 (low speed)	0 ~ 650.00Hz	10.00Hz	
04-03	P.24	Speed 4	0 ~ 650.00Hz 99999: Off	99999	
04-04	P.25	Speed 5	Same as 04-03	99999	
04-05	P.26	Speed 6	Same as 04-03	99999	
04-06	P.27	Speed 7	Same as 04-03	99999	
04-07	P.142	Speed 8	Same as 04-03	99999	
04-08	P.143	Speed 9	Same as 04-03	99999	
04-09	P.144	Speed 10	Same as 04-03	99999	
04-10	P.145	Speed 11	Same as 04-03	99999	
04-11	P.146	Speed 12	Same as 04-03	99999	
04-12	P.147	Speed 13	Same as 04-03	99999	
04-13	P.148	Speed 14	Same as 04-03	99999	
04-14	P.149	Speed 15	Same as 04-03	99999	
04-15	P.100	Programmed operation minute / second selection	0: Select minute as the time increment. 1: Select second as the time increment.	1	
04-16	P.121	Run direction in each section	0 ~ 255	0	
04-17	P.122	Programmed operation cycle selection	0:Off 1 ~ 8: Start cycle from the set section.	0	
04-18	P.123	Programmed operation acceleration / deceleration time setting selection	0: Acceleration time is 01-06(P.7), deceleration time is 01-07(P.8). 1: Acceleration and deceleration time is set by 04-35(P.111) ~ 04-42(P.118).	0	
04-19	P.131	Programmed operation mode speed 1	0 ~ 650.00Hz	0.00Hz	
04-20	P.132	Programmed operation mode speed 2	0 ~ 650.00Hz	0.00Hz	
04-21	P.133	Programmed operation mode speed 3	0 ~ 650.00Hz	0.00Hz	
04-22	P.134	Programmed operation mode speed 4	0 ~ 650.00Hz	0.00Hz	
04-23	P.135	Programmed operation mode speed 5	0 ~ 650.00Hz	0.00Hz	
04-24	P.136	Programmed operation mode speed 6	0 ~ 650.00Hz	0.00Hz	
04-25	P.137	Programmed operation mode speed 7	0 ~ 650.00Hz	0.00Hz	
04-26	P.138	Programmed operation mode speed 8	0 ~ 650.00Hz	0.00Hz	
04-27	P.101	Programmed operation mode speed 1 operating time	0 ~ 6000.0s	0.0s	
04-28	P.102	Programmed operation mode speed 2 operating time	0 ~ 6000.0s	0.0s	
04-29	P.103	Programmed operation mode speed 3 operating time	0 ~ 6000.0s	0.0s	
04-30	P.104	Programmed operation mode speed 4 operating time	0 ~ 6000.0s	0.0s	
04-31	P.105	Programmed operation mode speed 5 operating time	0 ~ 6000.0s	0.0s	
04-32	P.106	Programmed operation mode speed 6 operating time	0 ~ 6000.0s	0.0s	
04-33	P.107	Programmed operation mode speed 7 operating time	0 ~ 6000.0s	0.0s	
04-34	P.108	Programmed operation mode speed 8 operating time	0 ~ 6000.0s	0.0s	
04-35	P.111	Programmed operation mode speed 1 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	
04-36	P.112	Programmed operation mode speed 2 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	
04-37	P.113	Programmed operation mode speed 3 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	
04-38	P.114	Programmed operation mode speed 4 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	
04-39	P.115	Programmed operation mode speed 5 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	
04-40	P.116	Programmed operation mode speed 6 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	
04-41	P.117	Programmed operation mode speed 7 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	
04-42	P.118	Programmed operation mode speed 8 Acc/Dec time	0 ~ 600.00s/0 ~ 6000.0s	0.00s	

6) Motor Parameter Group 05

Group	No.	Name	Setting Range	Default	User Setting
05-00	P.301	Motor specifications automatic measurement	0: Off 1: Induction motor specifications automatic measurement 1 (Run motor to measure) 2: Induction motor specifications automatic measurement 2 (Don't run motor to measure) 3: Induction motor specifications automatic measurement (Measure when operating) 4: Reserved 5：Induction motor specifications automatic measurement 3 (Don't run motor to measure) 8: Synchronous motor specifications automatic measurement (Run motor to measure) 9: Synchronous motor phase Z position automatic measurement (Run motor to measure) 10: Induction motor/synchronous motor inertia automatic measurement	0	
05-01	P.302	Motor rated power	0 ~ 650.00kW	0.00kW	
05-02	P.303	Motor poles	0 ~ 256	4	
05-03	P.304	Motor rated voltage	440 Voltage：0 ~ 510V 220 Voltage：0~255V	According to voltage	
05-04	P.305	Motor rated frequency	50Hz system: 0 ~ 650.00Hz 60Hz system: 0 ~ 650.00Hz	50.00Hz 60.00Hz	
05-05	P.306	Motor rated current	0~500.00A: Below Frame G 0~5000.0A: Frame G and above	According to frame	
05-06	P.307	Motor rated rotation speed	50Hz system: 0 ~ 65000r/min 60Hz system: 0 ~ 65000r/min	1410r/min 1710r/min	
05-07	P.308	Motor excitation current	0~500.00A: Below Frame G 0~5000.0A: Frame G and above	According to frame	
05-08	P.309	IM motor stator resistance	0 ~ 65000mΩ: 45K/55KF and below 0 ~ 650.00mΩ: 55K/75KF and above	According to KW	
05-09	P.310	IM motor rotor resistance	0 ~ 65000mΩ: 45K/55KF and below 0 ~ 650.00mΩ: 55K/75KF and above	According to KW	
05-10	P.311	IM motor leakage inductance	0 ~ 6500.0mH: 45K/55KF and below 0 ~ 650.00mH: 55K/75KF and above	According to KW	
05-11	P.312	IM motor mutual inductance	0 ~ 6500.0mH: 45K/55KF and below 0 ~ 650.00mH: 55K/75KF and above	According to KW	
05-12	P.313	PM motor stator resistance	0 ~ 65000mΩ: 45K/55KF and below 0 ~ 650.00mΩ: 55K/75KF and above	According to KW	
05-13	P.314	PM motor d-axis inductance	0 ~ 650.00mH	According to KW	
05-14	P.315	PM motor q-axis inductance	0 ~ 650.00mH	According to KW	
05-15	P.316	PM motor back-emf coefficient	0 ~ 6500.0V/krpm	According to KW	
05-16	P.317	PM motor Phase Z origin pulse compensation	0 ~ 359.9°	0.0°	
05-17	P.318	The motor inertia	0 ~ 6.5000kg.m2:5.5K/7.5KF and below 0 ~ 65.000kg.m2: 7.5K/11KF~ 90K/110KF 0 ~ 650.00kg.m2: 110K/132KF and above	According to KW	
05-18	P.319	Load inertia ratio	0~600.0	1.0	
05-19	P.391	Inertia identification speed limit	0~100%	50%	
05-20	P.392	Acceleration and deceleration time of inertia Identification	0~20.0s	2.0s	
05-21	P.393	Operation mode of inertia Identification	0: one direction rotation 1: both direction rotation	1	
05-22	P.332	Second motor rated power	0 ~ 650.00kW 99999	99999	
05-23	P.333	Second motor poles	0 ~ 256 99999	99999	
05-24	P.334	Second motor rated voltage	440Voltage：0 ~ 510V 220Voltage： 0~255V	99999	
05-25	P.335	Second motor rated frequency	0 ~ 650.00Hz 99999	99999	
05-26	P.336	Second motor rated current	0~500.00A: Below Frame G 0~5000.0A: Frame G and above 99999	99999	
05-27	P.337	Second motor rated rotation speed	0 ~ 65000r/min 99999	99999	
05-28	P.338	Second motor excitation current	0~500.00A: Below Frame G 0~5000.0A: Frame G and above 99999	99999	
05-29	P.339	Second motor (IM) stator resistance	0 ~ 65000mΩ: 45K/55KF and below 0 ~ 650.00mΩ: 55K/75KF and above 99999	99999	
05-30	P.340	Second motor (IM) rotor resistance	0 ~ 65000mΩ: 45K/55KF and below 0 ~ 650.00mΩ: 55K/75KF and above 99999	99999	
05-31	P.341	Second motor (IM) leakage inductance	0 ~ 6500.0mH: 45K/55KF and below 0 ~ 650.00mH: 55K/75KF and above 99999	99999	
05-32	P.342	Second motor (IM) mutual inductance	0 ~ 6500.0mH: 45K/55KF and below 0 ~ 650.00mH: 55K/75KF and above 99999	99999	
05-33	P.343	Second motor (PM) stator resistance	0 ~ 65000mΩ: 45K/55KF and below 0 ~ 650.00mΩ: 55K/75KF and above 99999	99999	
05-34	P.344	Second motor (PM) d-axis inductance	0 ~ 650.00mH 99999	99999	
05-35	P.345	Second motor (PM) q-axis inductance	0 ~ 650.00mH 99999	99999	
05-36	P.346	Second motor (PM) Back-EMF coefficient	0 ~ 6500.0V/krpm 99999	99999	
05-37	P.347	Second motor (PM) Phase Z origin pulse compensation	0 ~ 359.9° 99999	99999	
05-38	P.394	Second motor rotation inertia	0 ~ 6.5000kg.m2: 5.5K/7.5KF and below 0 ~ 65.000kg.m2: From 7.5K/11KF to 90K/110KF 0 ~ 650.00kg.m2: 110K/132KF and above 99999	99999	
05-39	P.395	Second motor load inertia ratio	0~600.0 99999	99999	

7) Protection Parameter Group 06

Group	No.	Name	Setting Range	Default	User Setting
06-00	P.9	Electronic thermal relay capacity	0~500.00A: Below frame G 0~5000.0A: Frame G and above	According to frame	
06-01	P.22	Stall prevention operation level	0 ~ 250.0%	150.0%	
06-02	P.23	Stall prevention operation level correction factor	0 ~ 150.0% 99999: Stall prevention operation level is the setting value of 06-01(P.22).	99999	
06-03	P.66	Stall prevention operation reduction starting frequency	50Hz system: 0 ~ 650.00Hz 60Hz system: 0 ~ 650.00Hz	50.00Hz 60.00Hz	
06-04	P.220	Acceleration and deceleration time when current stall	0: According to the current Acc/Dec time 1: According to the first Acc/Dec time 2: According to the second Acc/Dec time 3: Automatically calculate proper Acc/Dec time	3	
06-05	P.30	Regenerative brake selection	0: Brake duty is fixed at 3%, parameter 06-06(P.70) will be off. 1: Brake duty is 06-06(P.70) value. 2：Connect to brake unit（D frame and above）	0 2	
06-06	P.70	Special regenerative brake duty	0 ~ 100.0%	0.0%	
06-07	P.263	Decrease carrier protection setting	0: Fixed carrier frequency, and limit output current according to carrier value. 1: Fixed rated current, and limit carrier according to output current and temperature.	0	
06-08	P.155	Over torque detection level	0 ~ 200.0%	0.0%	
06-09	P.156	Over torque detection time	0.1 ~ 60.0s	1.0s	
06-10	P.260	Action when detect over torque	0: OL2 alarm will not be reported after over torque detection, and inverter keeps running. 1: OL2 alarm will be reported after over torque detection, and inverter stops.	1	
06-11	P.160	Stall level when restart	0 ~ 150.0%	100.0%	
06-12	P.245	Cooling fan operation	0X: Inverter shows FAN alarm when fan is damaged. 1X: Inverter don't alarm when fan is damaged, but the output terminal which is set to function 16 will output a signal. X0: Fan turn on when inverter starts running. Fan turn off 30 seconds after inverter stops. X1: Fan turn on when inverter power on. Fan turn off when inverter power off. X2: Fan turn on if heat sink temperature is higher than 40℃. Fan turn off when inverter power off. X3: Fan turn on if heat sink temperature is higher than 60℃. Fan turn off when heat sink temperature is is lower than 40℃.	0	
06-13	P.281	Input phase loss protection	0: Off 1: When input phase loss, inverter stops and alarms IPF	0	
06-14	P.287	SCP Short circuit protection function	0: Off 1: When output side is short, inverter stops and alarms SCP.	1	
06-15	P.533	PTC alarm action	0: Alarm and continue to run 1: Alarm and decelerate to stop 2: Alarm and stop freely 3: No alarm	0	
06-16	P.534	Percentage of PTC level	0 ~ 100.0%	0.0%	
06-17	P.261	Maintenance alarm function	0: Off 1 ~ 9998day: Used to set the time for maintenance alarm output signal	0	
06-18	P.280	Short circuit to ground detection when starting	0: Off 1: When given run command to inverter, inverter detects short circuit to ground	0	
06-19	P.282	GF detection level when running	280K/315KF and below :0~100.0% 315K/355KF:0~100.0%	50.0% 70.0%	
06-20	P.262	Output phase loss protection	0: Off 1: When input phase loss, inverter stops and alarms LF.	0	
06-21	P.705	Low voltage level	220V inverter : 155 ~ 220V 440V inverter : 310 ~ 440V	155V 310V	
06-22	P.706	Regenerative brake operation level	220V inverter : 205 ~ 400V 440V inverter : 410 ~ 800V	360V 720V	
06-23	P.707	Voltage stall level	220V inverter : 205 ~ 400V 440V inverter : 410 ~ 800V	380V 760V	
06-24	P.708	Capacitor lifetime detection	0: Off 1: When the power is OFF, start to detect the lifetime of capacitor on main circuit.	0	
06-25	P.709	Capacitor lifetime detection level	0 ~ 100.0%	100.0%	
06-26	P.710	Capacitor lifetime detection result	0: Normal. 1: Electrolytic capacitor abnormal.	Read only	
06-27	P.292	Total inverter operation time (minutes)	0 ~ 1439 min	0min	
06-28	P.293	Total inverter operation time (days)	0 ~ 9999 day	0day	
06-29	P.296	Total inverter power on time (minutes)	0 ~ 1439 min	0min	
06-30	P.297	Total inverter power on time (days)	0 ~ 9999 day	0day	
06-31	P.298	Output power(lower 16 bit)	Read only	Read only	
06-32	P.299	Output power(higher 16 bit)	Read only	Read only	
06-40	P.288	Alarm record code query	Choose 0 ~ 12 recorded alarm	0	
06-41	P.289	Alarm record code display	Read only	Read only	
06-42	P.290	Alarm record message query	Choose 0 ~ 10 recorded alarm	0	
06-43	P.291	Alarm record message display	Read only	Read only	
06-44	P.740	E1	Read only	Read only	
06-45	P.741	E2	Read only	Read only	
06-46	P.742	E3	Read only	Read only	
06-47	P.743	E4	Read only	Read only	
06-48	P.744	E5	Read only	Read only	
06-49	P.745	E6	Read only	Read only	
06-50	P.746	E7	Read only	Read only	
06-51	P.747	E8	Read only	Read only	
06-52	P.748	E9	Read only	Read only	
06-53	P.749	E10	Read only	Read only	
06-54	P.750	E11	Read only	Read only	
06-55	P.751	E12	Read only	Read only	
06-56	P.752	Output frequency during E1 alarm	Read only	Read only	
06-57	P.753	Output current during E1 alarm	Read only	Read only	
06-58	P.754	Output voltage during E1 alarm	Read only	Read only	
06-59	P.755	Temperature rising accumulation rate during E1 alarm	Read only	Read only	
06-60	P.756	PN voltage during E1 alarm	Read only	Read only	
06-61	P.757	Total inverter operation time during E1 alarm	Read only	Read only	
06-62	P.758	Inverter operation status code during E1 alarm	Read only	Read only	
06-63	P.759	E1 alarm date (years / months)	Read only	Read only	
06-64	P.760	E1 alarm date (days/hours)	Read only	Read only	
06-65	P.761	E1 alarm date (minutes / seconds)	Read only	Read only	
06-70	P.766	Output frequency during E2 alarm	Read only	Read only	
06-71	P.767	Output current during E2 alarm	Read only	Read only	
06-72	P.768	Output voltage during E2 alarm	Read only	Read only	
06-73	P.769	Temperature rising accumulation rate during E2 alarm	Read only	Read only	
06-74	P.770	PN voltage during E2 alarm	Read only	Read only	
06-75	P.771	Total inverter operation time during E2 alarm	Read only	Read only	
06-76	P.772	Inverter operation status code during E2 alarm	Read only	Read only	
06-77	P.773	E2 alarm date (years / months)	Read only	Read only	
06-78	P.774	E2 alarm date (days/hours)	Read only	Read only	
06-79	P.775	E2 alarm date (minutes / seconds)	Read only	Read only	

8) Communication Parameter Group 07

Group	No.	Name	Setting Range	Default	User Setting
07-00	P.33	COM1 Communication protocol selection	0: Modbus protocol 1: Shihlin protocol 2 : PLC protocol (Effective when using Shihlin built-in PLC)	1	
07-01	P.36	COM1 inverter communication station number	0 ~ 254	0	
07-02	P.32	COM1 Serial communication baud rate	0: Baud rate:4800bps 1: Baud rate:9600bps 2: Baud rate:19200bps 3: Baud rate:38400bps 4: Baud rate:57600bps 5: Baud rate:115200bps	1	
07-03	P.48	COM1 data length	0: 8bit 1: 7bit	0	
07-04	P.49	COM1 stop bit length	0: 1bit 1: 2bit	0	
07-05	P.50	COM1 parity check selection	0: No parity check 1: Odd 2: Even	0	
07-06	P.51	COM1 CR/LF selection	1: CR only 2: Both CR and LF	1	
07-07	P.154	COM1 Modbus communication format	0: 1, 7, N, 2 (Modbus, ASCII) 1: 1, 7, E, 1 (Modbus, ASCII) 2: 1, 7, O, 1 (Modbus, ASCII) 3: 1, 8, N, 2 (Modbus, RTU) 4: 1, 8, E, 1 (Modbus, RTU) 5: 1, 8, O, 1 (Modbus, RTU)	4	
07-08	P.52	COM1 Number of communication retries	0 ~ 10	1	
07-09	P.53	COM1 communication interval allowed time	0~999.8s: Checking communication timeout with the set value 99999: No timeout check	99999	
07-10	P.153	COM1 communication alarm action	0: Alarm and stop freely 1: No alarm and continuing to operation	0	
07-11	P.34	Communication EEPROM write-in selection	0: When writing parameters in communication mode, write in RAM and EEPROM 1: When writing parameters through communication, only write into RAM	0	
07-15	P.800	CANopen slave address	0 ~ 127	0	
07-16	P.801	CANopen rate	0: 1Mbps 1: 500Kbps 2: 250K/280KFbps 3: 125 Kbps 4: 100 Kbps 5: 50 Kbps	0	
07-17	P.802	CANopen communication status	0: Node retry status 1: Communication retry status 2: Retry completion status 3: Pre-operation status 4: Operating status 5: Stop status	0	
07-18	P.803	CANopen control status	0: Boot not completed status 1: Forbidden operation state 2: Pre-excitation status 3: Excitation state 4: Allowed operating status 7: Quick action stop status 13: Trigger error action status 14: Error status	0	
07-25	P.810	PU communication protocol selection	0: Modbus protocol 1: Shihlin protocol 2: PLC protocol (Effective when using Shihlin built-in PLC)	1	
07-26	P.811	PU inverter communication station number	0~254	0	
07-27	P.812	PU serial communication baud rate	0 : Baud rate 4800bps 1 : Baud rate 9600bps 2 : Baud rate 19200bps 3 : Baud rate 38400bps 4 : Baud rate 57600bps 5 : Baud rate 115200bps	1	
07-28	P.813	PU data length	0 : 8bit 1 : 7bit	0	
07-29	P.814	PU stop bit	0 : 1bit 1 : 2bit	0	
07-30	P.815	PU Parity check option	0 : no parity check 1 : odd check 2 : even check	0	
07-31	P.816	PU CR/LF selection	1: CR only 2: Both CR and LF	1	
07-32	P.817	PU Modbus communication format	0 : 1、7、N、2 (Modbus, ASCII) 1 : 1、7、E、1 (Modbus, ASCII) 2 : 1、7、O、1 (Modbus, ASCII) 3 : 1、8、N、2 (Modbus, RTU) 4 : 1、8、E、1 (Modbus, RTU) 5 : 1、8、O、1 (Modbus, RTU)	4	
07-33	P.818	PU number of communication retries	0 ~ 10	1	
07-34	P.819	PU communication interval allowed time	0~999.8s: Check communication timeout with the set value 99999: Off	99999	
07-35	P.820	PU communication error handling	0: Alarm and stop freely. 1: No alarm and continue running	1	
07-41	P.826	Expansion communication card number of communication retries	0~10	1	
07-42	P.827	Expansion communication card communication error handling	0: Alarm and idling and stopping 1: No alarm and continue running	1	
07-43	P.828	Expansion communication card communication interval allowed time	0~999.8s: Check communication timeout with the set value 99999: Off	99999	
07-44	P.829	Version of EP301 communication card	Read only	read	
07-45	P.830	IP configuration	0: Static IP 1: Dynamic IP	0	
07-46	P.831	IP address 1	0~255	192	
07-47	P.832	IP address 2	0~255	168	
07-48	P.833	IP address 3	0~255	2	
07-49	P.834	IP address 4	0~255	102	
07-50	P.835	Subnet mask 1	0~255	255	
07-51	P.836	Subnet mask 2	0~255	255	
07-52	P.837	Subnet mask 3	0~255	255	
07-53	P.838	Subnet mask 4	0~255	0	
07-54	P.839	Default gateway 1	0~255	192	
07-55	P.840	Default gateway 2	0~255	168	
07-56	P.841	Default gateway 3	0~255	2	
07-57	P.842	Default gateway 4	0~255	100	

9) PID Parameter Group 08

Group	No.	Name	Setting Range	Default	User Setting
08-00	P.170	PID function selection	0: Off 0X: Parameter 08-03(P.225) as target value. 1X: Terminal 2-5 input as target source 2X: Terminal 4-5 input as target source 3X: Terminal 3-5 input as target source 4X: Terminal HDI input as target source X1: Terminal 2-5 input as feedback source X2: Terminal 4-5 input as feedback source X3: Terminal 3-5 input as feedback source	0	
08-01	P.171	PID feedback control method	0: Negative feedback control. 1: Positive feedback control.	0	
08-02	P.241	PID sampling period	0 ~ 60000 ms	20ms	
08-03	P.225	PID target value	0 ~ 08-43(P.251)	20.0%	
08-04	P.172	Proportional gain	0.1% ~ 1000.0%	20.0%	
08-05	P.173	Integral time	0 ~ 60.00s	1.00s	
08-06	P.174	Differential time	0 ~ 10000ms	0ms	
08-07	P.175	Abnormal deviation	0 ~ 100.0%	0.0%	
08-08	P.176	Abnormal duration time	0~600.0s	30.0s	
08-09	P.177	Abnormal processing mode	0: Stop freely 1: Slow down to stop 2: Alarm and continue operation	0	
08-10	P.178	Sleep detection deviation	0 ~ 100.0%	0.0%	
08-11	P.179	Sleep detection duration time	0 ~ 255.0s	1.0s	
08-12	P.180	Wake-up level	0 ~ 100.0%	90.0%	
08-13	P.181	Stop level	0 ~ 120.00Hz	40.00Hz	
08-14	P.182	Upper integral limit	0 ~ 200.0%	100.0%	
08-15	P.183	Deceleration step length when stable	0 ~ 10.00Hz	0.50Hz	
08-16	P.221	Lower limit of pressure sampling value	0 ~ 65535	0	
08-17	P.222	Upper limit pressure sampling value	0 ~ 65535	0	
08-18	P.223	Analog feedback signal bias	0 ~ 100.0%	0.0%	
08-19	P.224	Analog feedback signal gain	0 ~ 100.0%	100.0%	
08-20	P.641	Proportional gain P2	0.1% ~ 1000.0%	20.0%	
08-21	P.642	Integral time I2	0 ~ 60.00s	1.00s	
08-22	P.643	Differential time D2	0 ~ 10000ms	0ms	
08-23	P.644	Auto adjustment for PID parameters	0:Adjust according to the feedback deviation value 1: Adjust according to the curling radius. 2: Adjust according to the operation frequency 3: Adjust according to the line speed	0	
08-24	P.711	PID target signal filter time	0 ~ 650.00s	0.00s	
08-25	P.712	PID feedback signal filter time	0 ~ 60.00s	0.00s	
08-26	P.713	PID output signal filter time	0 ~ 60.00s	0.00s	
08-27	P.714	PID deviation control limit	0 ~ 100.00%	0.00%	
08-28	P.715	Integral separated property	0: Off 1: Integral separated	0	
08-29	P.716	Integral separated point	0 ~ 100.00%	50.00%	
08-30	P.717	PID differential limit	0 ~ 100.00%	0.10%	
08-31	P.718	PID output positive deviation limit	0 ~ 100.00%	100.00%	
08-32	P.719	PID output negative deviation limit	0 ~ 100.00%	100.00%	
08-33	P.720	PID parameter switch-over operation selection	0: Off. 1: PID parameter switch-over based on deviation.	0	
08-34	P.721	PID parameter switch-over deviation lower limit	0 ~ 100.00%	20.00%	
08-35	P.722	PID parameter switch-over deviation upper limit	0 ~ 100.00%	80.00%	
08-36	P.723	PID disconnection operation option 1	0: Select no need to run to the upper limit when PID is disconnected 1: Select need to run to the upper limit when PID is disconnected	1	
08-39	P.726	PID counting when inverter stop action selection	0: PID stop counting when inverter stop 1: PID keep counting when inverter stop	0	
08-40	P.727	PID allowed reverse rotation action selection	0: PID does not allow reverse rotation 1: PID allows reverse rotation	0	
08-41	P.728	PID in reverse direction integral limit	0 ~ 100.0%	0.0%	
08-42	P.729	PID minimum output frequency	0 ~ 10.00Hz	0.00Hz	
08-43	P.251	PID pressure range (Bar) setting	1.0~100.0	100.0	
08-44	P.252	PID unit selection	0: % 1: bar 2: -- 3: kgs 4: kg 5: psi 6: Pa 7: kPa 8: MPa 9: C	0	
08-45	P.253	Disconnection detection time feedback	0.0~600.0s	0s	
08-46	P.254	Disconnection processing method feedback	0: AEr alarm, inverter free stop 1: Slow down and stop, call AEr alarm 2: AEr alerts and continues running	0	
08-50	P.724	PID target linear change time	0~650.00s	0.00s	

10) PG Feedback Parameter Group 09

Group	No.	Name	Setting Range	Default	User Setting
09-00	P.349	Encoder type	0 : ABZ 1 : ABZ (For synchronous motor) 2 : Resolver 1x synchronous motor standard encoder 3 : ABZ/UVW synchronous motor standard encoder	0	
09-01	P.350	Encoder pulse 1	0 ~ 20000	1024	
09-02	P.351	Encoder input type 1	0 : Off 1 :A/Phase B pulse wave ,forward spin if Phase A is over Phase B for 90 degrees 2 :A/Phase B pulse wave ,forward spin if Phase B is over Phase A for 90 degrees. 3 : Phase A :pulse wave , Phase B:directional sign , L:reverse spin , H:forward spin 4 : Phase A :pulse wave , Phase B: directional sign , L:forward spin , H:reverse spin	0	
09-03	P.352	PG error detection time	0 ~ 100.0s	1.0s	
09-04	P.353	Over-speed detection frequency	0 ~ 30.00Hz	4.00Hz	
09-05	P.354	Over-speed detection time	0 ~ 100.0s	1.0s	
09-06	P.355	Encoder pulse 2	0 ~ 20000	2500	
09-07	P.356	Encoder input type 2	0 : Off 1 :A/Phase B pulse wave, forward spin if Phase A is over Phase B for 90 degrees 2 :A/Phase B pulse wave ,forward spin if Phase B is over Phase A for 90 degrees 3 : Phase A :pulse wave , Phase B:directional sign , L:reverse spin , H:forward spin 4 : Phase A :pulse wave , Phase B: directional sign , L:forward spin , H:reverse spin	0	
09-08	P.357	Frequency division output setting	1 ~ 255	1	
09-09	P.358	Frequency division filter coefficiency setting	0 ~ 255	0	
09-10	P.359	Electronic gear ratio	0 ~ 65.535	1.000	
09-11	P.360	Anti-reversal detection pulse	0 ~ 65535	0	
09-12	P.361	Reversal detection frequency	0 ~ 65535	0	
09-13	P.124	Expansion card version	Read only	Read	
09-14	P.363	Z phase correction allowance	0.0° : Off 0.1°~360.0° : Z phase pulse correction	15.0°	
09-15	P.364	Z phase DV1/DV2 alarm enabled	0 : Off 1 : Z phase DV1/DV2 alarm valid	1	
09-16	P.386	Encoder signal detection setting	1 digit : PG302L hardware disconnection check: 0 : Off / 1 : On 2 digit : A1/B1 phase sequence check: 0 : Off / 1 : On	1	
09-17	P.416	Encoder mounting transmission ratio	0 ~ 65.535	1.000	

11) Application Parameter Group 10

Group	No.	Name	Setting Range	Default	User Setting
10-00	P.10	DC brake operating frequency	0 ~ 120.00Hz	3.00Hz	
10-01	P.11	DC brake operating time	0 ~ 60.0s	0.5s	
10-02	P.12	DC brake operating voltage	0 ~ 30.0%: 7.5K/11KF and below 0 ~ 30.0%: 11K/15KF ~ 55K/75KF 0 ~ 30.0%: 75K/90KF and above	4.0% 2.0% 1.0%	
10-03	P.151	Zero-speed control function selection	0: Off. 1: Zero speed control is performed at zero speed. 2: In close-loop vector mode do zero-servo.	0	
10-04	P.152	Voltage at zero-speed control	0 ~ 30.0%: 7.5K/11KF and below 0 ~ 30.0%: From 11K/15KF to 55K/75KF 0 ~ 30.0%: 75K/90KF and above	4.0% 2.0% 1.0%	
10-05	P.242	DC brake before inverter start	0: Off 1: Before starting operate DC brake first.	0	
10-06	P.243	DC brake time before inverter start	0 ~ 60.0s	0.5s	
10-07	P.244	DC brake voltage before inverter start	0 ~ 30.0%: 7.5K/11KF and below 0 ~ 30.0%: 11K/15KF ~ 55K/75KF 0 ~ 30.0%: 75K/90KF and above.	4.0% 2.0% 1.0%	
10-08	P.150	Restart mode selection	XX0: No frequency search. XX1: Direct frequency search XX2: Decrease voltage mode X0X: Power on once. X1X: Start each time. X2X: Only instantaneous stop and restart 0XX: No rotation direction detection. 1XX: Rotation direction detection. 2XX:00-15(P.78)=0, rotation direction detection ; 00-15(P.78)=1/2, no rotation direction detection.	0	
10-09	P.57	Restart idling time	0 ~ 30.0s 99999: Off.	99999	
10-10	P.58	Restart rising time	0 ~ 60.0s: 7.5K/11KF and below. 0 ~ 60.0s: From 11K/15KF ~ 55K/75KF 0 ~ 60.0s: 75K/90KF and above.	5.0s 10.0s 20.0s	
10-11	P.61	Remote control function	0: Off 1: Remote control function, frequency save in memory 2: Remote control function, frequency won't save 3: Remote control function, frequency won't save, clear frequency setting every time STF/STR "turn off".	0	
10-12	P.65	Auto reset function	0: Off. 1: When over-voltage, inverter will reset. 2: When over-current, inverter will reset. 3: When either over-voltage or over-current, inverter will reset. 4: When any alarm occur, inverter will reset.	0	

10-13	P.67	Auto reset times	0: Off. 1 ~ 10: If the alarm exceeds 10-13(P.67) times, inverter will not reset.	0	
10-14	P.68	Auto reset waiting time	0 ~ 360.0s	1.0s	
10-15	P.69	Auto reset times count	Read only	0	
10-16	P.119	Forward and reverse rotation dead time	0 ~ 3000.0s	0.0s	
10-17	P.159	Energy-saving control function	0: Off. 1: Energy-saving mode.	0	
10-18	P.229	Dwell function selection	0: Off. 1: Backlash compensation function. 2: Acceleration and deceleration interrupt waiting function.	0	
10-19	P.230	Dwell frequency at acceleration	0 ~ 650.00Hz	1.00Hz	
10-20	P.231	Dwell time at acceleration	0 ~ 360.0s	0.5s	
10-21	P.232	Dwell frequency at deceleration	0 ~ 650.00Hz	1.00Hz	
10-22	P.233	Dwell time at deceleration	0 ~ 360.0s	0.5s	
10-23	P.234	Triangular wave function selection	0: Off. 1: If terminal function TRI is triggered, triangular wave function will on. 2: Triangular wave function is on at all time.	0	
10-24	P.235	Maximum amplitude	0 ~ 25.0%	10.0%	
10-25	P.236	Amplitude compensation at deceleration	0 ~ 50.0%	10.0%	
10-26	P.237	Amplitude compensation at acceleration	0 ~ 50.0%	10.0%	
10-27	P.238	Amplitude acceleration time	0 ~ 360.00s/0 ~ 3600.0s	10.00s	
10-28	P.239	Amplitude deceleration time	0 ~ 360.00s/0 ~ 3600.0s	10.00s	
10-29	P.247	Switch to commercial supply MC switch-over interlock time	0.1 ~ 100.0s	1.0s	
10-30	P.248	Switch to commercial supply waiting time	0.1 ~ 100.0s	0.5s	
10-31	P.249	From inverter to commercial power supply switch-over frequency	0 ~ 60.00Hz 99999: Off.	99999	
10-32	P.250	Automatic switch-over frequency range	0~10.00Hz: After switching from inverter operation to commercial power supply operation, after inverter start command (STF/STR) is OFF, switch to inverter operation. 99999: After switching from inverter operation to commercial power supply operation, after inverter start command (STF/STR) is OFF, switch to inverter operation, and slow down to stop.	99999	
10-33	P.273	When input power fail stop option	0: Off. 1: No under-voltage avoidance (If under-voltage or power fail, the motor decelerates to stop.) 2: No under-voltage avoidance (If under-voltage or power fail, the motor decelerates to stop. Motor re-accelerates if power restores during the deceleration to stop.) 11: under-voltage avoidance If under-voltage or power fail, the motor decelerates to stop.) 12: under-voltage avoidance (If under-voltage or power fail, the motor decelerates to stop. Motor re-accelerates if power restores during the deceleration to stop.)	0	
10-34	P.274	When input power fail subtracted frequency at deceleration start	0 ~ 20.00Hz	3.00Hz	
10-35	P.275	When input power fail subtraction starting frequency	0 ~ 120.00Hz: When output frequency≥10-35(P.275), Motor decelerates from "output frequency - 10-34(P.274)" ; When output frequency < 10-35(P.275), deceleration from output frequency 99999: Motor decelerates from "output frequency - 10-34(P.274)"	50Hz	
10-36	P.276	Deceleration time during input power failure 1	0~360.00s/0~3600.0s	5.00s	
10-37	P.277	Deceleration time during input power failure 2	0~360.00s//0~3600.0s: Set deceleration time below the set frequency of 10-38 (P.278) 99999: Set deceleration time to the set frequency of 10-38 (P.278)	99999	
10-38	P.278	When input power fail deceleration time switch-over frequency	0 ~ 650.00Hz	50.00Hz	
10-39	P.279	UV avoidance voltage gain	0 ~ 200.0%	100.0%	
10-40	P.700	VF separated voltage source	0: Given by digital 10-41(P.701). 1: Given by analog or HDI pulse signal.	0	
10-41	P.701	VF separated voltage digital	0 ~ 440.00V/0~220.00V	According to voltage	
10-42	P.702	VF separated voltage Acc time	0 ~ 1000.0s	0.0s	
10-43	P.703	VF separated voltage Dec time	0 ~ 1000.0s	0.0s	
10-44	P.704	VF separated stop selection	0: Frequency/voltage independently decreases to 0. 1: After the voltage decreases to 0, frequency decreases.	0	
10-45	P.267	Regeneration avoid function selection	0: Off. 1: Regeneration avoid function is always on. (Automatic calculate Acc/Dec speed) 2: Regeneration avoid function is on only during constant speed operation (Automatic calculate Acc/Dec speed) 11: Regeneration avoid function is always on. (Manual mode, Acc/Dec speed is set by 10-49(P.271) and 10-50(P.272)) 12: Regeneration avoid function is on only during constant speed operation (Manual mode, Acc/Dec speed is set by 10-49(P.271) and 10-50(P.272))	0	
10-46	P.268	Regeneration avoid action voltage level	220V : 155 ~ 400V 440V : 310 ~ 800V	380V 760V	
10-47	P.269	Regeneration avoid function DC bus voltage detection sensitivity at deceleration	0: Prevent regeneration avoidance from failing according to bus voltage change rate 1 ~ 5: Set the sensitivity to detect the bus voltage change rate. Larger number, higher sensitivity.	0	
10-48	P.270	Regeneration avoid frequency compensation value	0 ~ 10.00Hz: Set the limit value of regenerative avoid frequency compensation. 99999: Off.	6.00Hz	
10-49	P.271	Regeneration avoid voltage gain coefficient	0 ~ 400.0%/0 ~ 40.0%	100.0%	
10-50	P.272	Regeneration avoid frequency gain coefficient	0 ~ 400.0%/0 ~ 40.0%	100.0%	
10-51	P.264	Over excitation deceleration	0: Off. 1: Over excitation deceleration is valid.	0	
10-52	P.265	Over excitation current level	0 ~ 200.0%	150.0%	
10-53	P.266	Over excitation gain	1.00 ~ 1.40	1.10	
10-54	P.362	Short-circuit brake time when PM motor start	0~60.0s	0.0s	
10-55	P.780	PLC function selection	0: Off 1: PLC RUN signal from digital input terminal function 60 or 10-56 (P.781)。 2： PLC RUN signal from digital input terminal function 60	0	
10-56	P.781	PLC run	0: Off 1: PLC RUN	0	
10-57	P.782	PLC program erase function	0: Off 1: Erase the PLC program, after erase success parameter value is 0.	0	
10-58	P.783	PLC choose register to monitor	0~326	0	
10-59	P.784	PLC register monitoring value	Read only	Read	

12) Speed and Torque Control Parameter Group 11

Group	No.	Name	Setting Range	Default	User Setting
11-00	P.320	Speed control proportional coefficient 1	0 ~ 2000.0	100.0	
11-01	P.321	Speed control integral time 1	0 ~ 20.00 s	0.30s	
11-02	P.322	PI coefficient switch-over frequency 1	0 ~ 11-05(P.325)Hz	5.00Hz	
11-03	P.323	Speed control proportional coefficient 2	0 ~ 2000.0	100.0	
11-04	P.324	Speed control integral time 2	0 ~ 20.00s	0.30s	
11-05	P.325	PI coefficient switch-over frequency 2	11-02(P.322) ~ 650.00Hz	10.00Hz	
11-06	P.326	Current control proportional coefficient	0 ~ 20	0	
11-07	P.327	PM motor type	0: SPM 1: IPM	0	
11-08	P.328	PM motor initial position detection method	0: Pull in. 1: High frequency pulse	0	
11-09	P.329	PM motor acceleration id	0 ~ 200%	80%	
11-10	P.330	PM motor constant speed id	0 ~ 200%	0%	
11-11	P.331	PM motor estimated speed filtering time	0 ~ 1000ms	2ms	
11-12	P.401	Torque command	-400.0 ~ 400.0%	0.0%	
11-13	P.402	Speed limit	-120% ~ 120%	0%	
11-14	P.403	Speed limit bias	0 ~ 120%	10%	
11-15	P.404	Torque filter time	0 ~ 1000ms	0ms	
11-16	P.405	Torque command source	0: Given by 11-12(P.401). 1: Given by analog or pulse input. 2: Given by communication mode.	0	
11-17	P.406	Speed limit selection	0: Speed is limited according to 11-13 (P.402) and 11-14 (P.403) 1: Frequency command source(it is decided according to 00-16(P.79))	0	
11-18	P.407	Unidirectional speed limit bias	0: Off 1: Unidirectional speed limit bias is valid.	1	
11-19	P.408	Forward-rotation electronic torque limit	0 ~ 400.0%	200.0%	
11-20	P.409	Reverse-rotation regenerative torque limit	0 ~ 400.0%	200.0%	
11-21	P.410	Reverse-rotation electronic torque limit	0 ~ 400.0%	200.0%	
11-22	P.411	Forward-rotation regenerative torque limit	0 ~ 400.0%	200.0%	
11-23	P.412	Zero-speed proportional coefficient	0~2000.0	100.0	
11-24	P.413	Zero-speed integral time	0~20.00s	0.30s	
11-25	P.414	Zero-speed switching frequency	0~650.00Hz	5.00Hz	
11-26	P.415	IM motor estimated speed filtering time	0-100.00ms	0	
11-30	P.371	Second motor speed control proportional coefficient 1	0 ~ 2000 99999	100.0	
11-31	P.372	Second motor speed control integral time 1	0 ~ 20.00s 99999	0.30s	
11-32	P.373	Second motor PI coefficient switch-over frequency 1	0 ~ 11-35 (P.376)Hz 99999	5.00Hz	
11-33	P.374	Second motor speed control proportional coefficient 2	0 ~ 2000 99999	100	
11-34	P.375	Second motor speed control integral time 2	0 ~ 20.00s 99999	0.30s	
11-35	P.376	Second motor PI coefficient switch-over frequency 2	11-32(P.373)~650.00Hz 99999	10.00Hz	
11-36	P.377	Second motor current control proportional coefficient	0 ~ 20 99999	0	
11-37	P.378	Second PM motor type	0: SPM 1: IPM 99999	0	
11-38	P.379	Second PM motor initial position detection method	0: Pull in. 1: High frequency pulse 99999	0	
11-39	P.380	Second PM motor acceleration id	0 ~ 200% 99999	80%	
11-40	P.381	Second PM motor constant speed id	0 ~ 200% 99999	0%	
11-41	P.382	Second PM motor estimated speed filtering time	0 ~ 1000ms 99999	2ms	
11-42	P.365	PM motor speed estimation observer source of PI parameters	0 : Set manually 1 : automatic calculation	0	
11-43	P.366	PM motor speed estimation observer Kp	0 ~ 65000	30	
11-44	P.367	PM motor speed estimation observer Ki	0 ~ 65000	10000	
11-45	P.383	PM zero speed motor current loop bandwidth coefficient	0 ~ 100	--	
11-46	P.384	PM motor current loop bandwidth coefficient at low speed	0 ~ 100	--	
11-47	P.385	PM motor current loop bandwidth coefficient at a high speed	0 ~ 100	--	
11-48	P.387	Speed loop zero speed bandwidth	0~100.0Hz	5.0Hz	
11-49	P.388	Speed loop low speed bandwidth	0~100.0Hz	5.0Hz	
11-50	P.389	Speed loop high speed bandwidth	0~100.0Hz	5.0Hz	
11-51	P.390	Speed loop self-tuning selection	0：The self-setting function of the speed loop is invalid 1：Speed loop self-tuning function effective	0	
11-52	P.368	Speed loop outputs low-pass filter time constant	0~500.0ms	0	
11-58	P.440	PM motor id given low-pass filter time constant	0~65.535s	0.200s	

13) Position Control Parameter 12

Group	No.	Name	Setting Range	Default	User Setting
12-00	P.420	Homing mode	0 ~ 2123	0	
12-01	P.421	Homing,first high speed	0 ~ 650.00Hz	10.00Hz	
12-02	P.422	Homing,second high speed	0 ~ 650.00Hz	2.00Hz	
12-03	P.423	Pulse deviation of original point	-30000~30000	0	
12-04	P.424	Position command source	0 : External pulse 1 : Relative position 2 : Absolute position	0	
12-05	P.425	Position control proportional gain	0 ~ 65535	10	
12-06	P.426	Position control feed-forward gain coefficiency	0 ~ 65535	0	
12-07	P.427	Position control feed-forward low pass filter time	0 ~ 65535ms	100ms	
12-08	P.428	External pulse position control speed limit	0 ~ 650.00Hz	10.00Hz	
12-09	P.429	Position reach margin	0 ~ 65535	40	
12-10	P.430	Zero servo gain	0 ~ 100	5	
12-11	P.431	Single point positioning	0~65535	0	
12-12	P.432	Single point positioning frequency	0~650.00Hz	0.00Hz	
12-13	P.433	Zero speed threshold	0~650.00Hz	0.50Hz	
12-14	P.434	Position command response option	0~2	0	
12-20	P.450	Cycle number of position command 1	-30000~30000	0	
12-21	P.451	Pulse number of position command 1	-30000~30000	0	
12-22	P.452	Cycle number of position command 2	-30000~30000	0	
12-23	P.453	Pulse number of position command 2	-30000~30000	0	
12-24	P.454	Cycle number of position command 3	-30000~30000	0	
12-25	P.455	Pulse number of position command 3	-30000~30000	0	
12-26	P.456	Cycle number of position command 4	-30000~30000	0	
12-27	P.457	Pulse number of position command 4	-30000~30000	0	
12-28	P.458	Cycle number of position command 5	-30000~30000	0	
12-29	P.459	Pulse number of position command 5	-30000~30000	0	
12-30	P.460	Cycle number of position command 6	-30000~30000	0	
12-31	P.461	Pulse number of position command 6	-30000~30000	0	
12-32	P.462	Cycle number of position command 7	-30000~30000	0	
12-33	P.463	Pulse number of position command 7	-30000~30000	0	
12-34	P.464	Cycle number of position command 8	-30000~30000	0	
12-35	P.465	Pulse number of position command 8	-30000~30000	0	
12-36	P.466	Cycle number of position command 9	-30000~30000	0	
12-37	P.467	Pulse number of position command 9	-30000~30000	0	
12-38	P.468	Cycle number of position command 10	-30000~30000	0	
12-39	P.469	Pulse number of position command 10	-30000~30000	0	
12-40	P.470	Cycle number of position command 11	-30000~30000	0	
12-41	P.471	Pulse number of position command 11	-30000~30000	0	
12-42	P.472	Cycle number of position command 12	-30000~30000	0	
12-43	P.473	Pulse number of position command 12	-30000~30000	0	
12-44	P.474	Cycle number of position command 13	-30000~30000	0	
12-45	P.475	Pulse number of position command 13	-30000~30000	0	
12-46	P.476	Cycle number of position command 14	-30000~30000	0	
12-47	P.477	Pulse number of position command 14	-30000~30000	0	
12-48	P.478	Cycle number of position command 15	-30000~30000	0	
12-49	P.479	Pulse number of position command 15	-30000~30000	0	

14) Special Adjustment Parameter Group 13

Group	No.	Name	Setting Range	Default	User Setting
13-00	P.89	Slip compensation coefficient	0 ~ 10	0	
13-01	P.246	Modulation coefficient	0.90 ~ 1.20	1.00	
13-02	P.285	Low frequency vibration suppression factor	0 ~ 8	5	
13-03	P.286	High frequency vibration suppression factor	XX00 ~ XX15 00XX ~15XX	509	

15) Tension Control Parameter Group 14

Group	No.	Name	Setting Range	Default	User Setting
14-00	P.600	Tension control parameter	0 : Off 1 : Open loop torque control mode (under closed loop vector control mode) 2 : Closed loop speed control mode 3 : Closed loop torque control mode (under closed loop vector control mode) 4 : Constant linear speed control mode	0	
14-01	P.601	Rolling mode	0 : Wind roll 1 : Release roll	0	
14-02	P.602	Tightening roll option when releasing	0 : Forbid tightening material during start-up 1 : Allow tightening material during start-up	0	
14-03	P.603	Mechanical transmission ratio	0 ~ 300.00	1.00	
14-04	P.604	Tension setting source	0 : Parameter 14-05 (P.605) setting 1 : Analog value or PULSE input setting 2 : Communication setting	0	
14-05	P.605	Tension setting	0 ~ 30000N	0N	
14-06	P.606	Maximum tension	0 ~ 30000N	0N	
14-07	P.607	Zero-speed tension increase	0 ~ 50.0%	0.0%	
14-08	P.608	Zero-speed threshold	0 ~ 30.00Hz	0.00Hz	
14-09	P.609	Tension taper	0 ~ 100.0%	0.0%	
14-10	P.654	Taper compension correction value	0 ~ 10000mm	0mm	

14-11	P.610	Winding radius calculation method options	0 : Calculate by linear speed 1 :Calculate by thickness(encoder of motor side) ,pulse signal connects to A1/B1 of PG card 2 : Calculate by thickness (encoder of winding shaft) , pulse signal input to terminal HDI 3 : Analog value of pulse input	0	
14-12	P.650	Calculate winding memory control by thickness calculation	0 : Do not save winding radius when power outage or calculation stops 1 : Save winding radius when there's a power outage or calculation stops , and use saved winding radius as initial winding radius when power recovers or calculation restarts	0	
14-13	P.611	Maximum winding radius	0 ~ 10000mm	500mm	
14-14	P.612	Winding diameter	0 ~ 10000mm	100mm	
14-15	P.613	Initial winding radius source	0 : Initial winding radius is determined by parameter 14-16(P.614) ~ 14-18(P.616) 1 : Initial winding radius is determined by analog value	0	
14-16	P.614	Initial winding radius 1	1 ~ 10000mm	100mm	
14-17	P.615	Initial winding radius 2	1 ~ 10000mm	100mm	
14-18	P.616	Initial winding radius 3	1 ~ 10000mm	100mm	
14-19	P.617	Winding radius filter time	0 ~ 1000ms	0ms	
14-20	P.618	Current winding radius	0 ~ 10000mm	0mm	
14-21	P.619	Pulse per cycle	1 ~ 60000	1	
14-22	P.620	Cycle per layer	1 ~ 10000	1	
14-23	P.621	Material thickness setting source	0 :Material thickness is set by parameter 14-24(P.622)~ 14-27(P.625) 1 : Material thickness is determined by analog value	0	
14-24	P.622	Material thickness 0	0.01 ~ 100.00mm	0.01mm	
14-25	P.623	Material thickness 1	0.01 ~ 100.00mm	0.01mm	
14-26	P.624	Material thickness 2	0.01 ~ 100.00mm	0.01mm	
14-27	P.625	Material thickness 3	0.01 ~ 100.00mm	0.01mm	
14-28	P.626	Maximum thickness	0.01 ~ 100.00mm	1.00mm	
14-29	P.627	Linear speed input source	0 : Off 1 : Analog value or pulse input 2 : Communication setting	0	
14-30	P.628	Maximum linear speed	0.1 ~ 6500.0m/min	1000.0m/min	
14-31	P.629	Calculate R minimum linear speed	0.1 ~ 6500.0m/min	200.0m/min	
14-32	P.630	Actual linear speed	0 ~ 6500.0m/min	0.0m/min	
14-33	P.633	Mechanical interia compensation coefficiency	0 ~ 65535	0	
14-34	P.634	Material density	0 ~ 60000kg/m3	0kg/ m^3	
14-35	P.635	Material width	0 ~ 60000mm	0mm	
14-36	P.636	Friction compensation coefficiency	0 ~ 50.0%	0.0%	
14-37	P.637	Material outage detection function	0 : Off 1 : Material outage detection function 1 2 : Material outage detection function 2	0	
14-38	P.638	Minimum speed detection	0.1 ~ 6500.0m/min	200.0m/min	
14-39	P.639	Error range detection	0.1 ~ 100.0%	10.0%	
14-40	P.640	Delay detection	0.1 ~ 60.0s	2.0s	
14-41	P.645	Pre-drive speed gain	-50.0% ~ 50.0%	0.0%	
14-42	P.646	Pre-drive torque increase	-50.0% ~ 50.0%	0.0%	
14-43	P.647	Pre-drive delay	0 ~ 65535ms	0ms	
14-44	P.656	Linear speed setting source	0 : Off 1 : Obtain linear speed via analog value or pulse input 2 : Obtain linear speed via communication	0	
14-45	P.657	Linear speed setting	0 ~ 6500.0m/min	0.0m/min	
14-46	P.658	Closed-loop tension limit standard	0 : Use rated frequency of motor as standard of limitation 1 : Use system linear speed as standard of limitation	0	
14-47	P.659	Closed-loop tension limit deviation	0.0%~100.0%	0.0%	

16) User Parameter Group 15

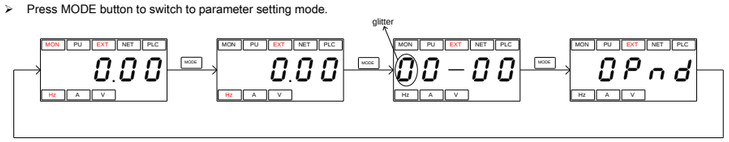
Group	No.	Name	Setting Range	Default	User Setting
15-00	P.900	User registered parameter 1	P parameter mode: 0 ~ 1299 Parameter group mode: 00-00-15-99	99999	
15-01	P.901	User registered parameter 2		99999	
15-02	P.902	User registered parameter 3		99999	
15-03	P.903	User registered parameter 4		99999	
15-04	P.904	User registered parameter 5		99999	
15-05	P.905	User registered parameter 6		99999	
15-06	P.906	User registered parameter 7		99999	
15-07	P.907	User registered parameter 8		99999	
15-08	P.908	User registered parameter 9		99999	
15-09	P.909	User registered parameter 10		99999	
15-10	P.910	User registered parameter 11		99999	
15-11	P.911	User registered parameter 12		99999	
15-12	P.912	User registered parameter 13		99999	
15-13	P.913	User registered parameter 14		99999	
15-14	P.914	User registered parameter 15		99999	
15-15	P.915	User registered parameter 16		99999	
15-16	P.916	User registered parameter 17		99999	
15-17	P.917	User registered parameter 18		99999	
15-18	P.918	User registered parameter 19		99999	
15-19	P.919	User registered parameter 20		99999	

17) Switching Parameter Mode

- SA3 series classify parameters according to functions, and default displayed as "Group Mode" ;
- If users prefer to display as "P.xxx" mode, please set parameter 00-25 as "1", and the parameters will be displayed as "Traditional P Mode".

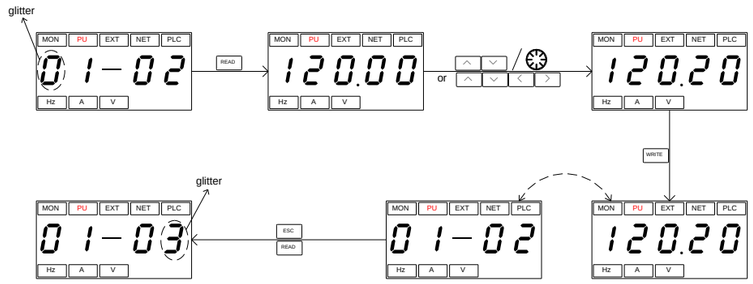
18) Parameter Setting Flow chart

- Press MODE button to switch to parameter setting mode.



(Monitoring)(Frequency Setting)(Parameter Setting)(Operating)

- Operate according to the following flow chart.



19) Others

- To improve our products, the parameters and contents may be modified, please contact the agent or refer to Shihlin websites(http://automation.seec.com.tw/) to download the latest version.

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