Shihlin

Shihlin Electric SF3 Series General Inverter Parameter Instruction

V1.04-03

High Functioning & High Performance

SF3-043-5.5K/3.7KG ~ 355K/315KG

Thank you for choosing Shihlin inverters SF3 series.

This instrucion provides parameters list of SF3 series, for users to efficiently search for setting range and default setting of all parameters, and set accordingly. Before adjusting parameters please read this instruction carefully to use the inverter correctly.

*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 Value	User Setting
00-00	P.90	The inverter model	Read	Read	
00-01	P.188	Program version	Read	Read	
00-02	P.996 ~ P.999	Parameter restoration	0: Non-function 1: Alarm history clear(P.996=1) 2: Inverter reset(P.997=1) 3: Restoring all parameters to default values(P.998=1) 4: Restoring some parameters to default values 1(P.999=1) 5: Restoring some parameters to default values 2(P.999=2) 6: Restoring some parameters to default values 3(P.999=3)	0	
00-03	P.77	Parameters writing protection selection	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 written when in password protection.	0	
00-04	P.294	Decryption parameter	0~65535	0	
00-05	P.295	Password setup	2~65535	0	
00-06	P.110	Operation panel monitoring selection	X0: When the inverter starts, the operation panel enters the monitoring mode automatically, and the screen displays the output frequency. X1: When inverter starts, screen of operation panel 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 to monitor model output frequency 1X：Boot screen to set the target frequency mode 2X：Boot screen to monitor model of output current 3X：Boot screen to monitor mode of the output voltage	1	
00-07	P.161	Multi-function display	0: Output voltage(V) 1: Inverter voltage between (+/P) and (-/N) terminals.(V) 2: Temperature rising accumulation rate of inverter (%) 3: Target pressure of the constant pressure system(%) 4: Feedback pressure of the constant pressure system(%) 5: Operation frequency(Hz) 6: Electronic thermal accumulation rate(%) 7: Signal value (V) of 2-5 simulating input terminals. 8: Signal value (mA) of 4-5 simulating input terminals (mA/V). 9: Output power (kW). 10: PG card's feedback rotation speed. (Hz) 11: Positive and reverse rotation signal. Then 1 represents positive rotation, 2 represents reverse rotation, and 0 represents stopping state. 12: NTC temperature(℃) 13: Electronic thermal accumulation rate of motor (%) 14: Reserve 15: Input frequency of terminal HDI. (kHz) 16: Real-time curling radius value. (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 simulating input terminals. (mA/V) 23: Synchronous motor rotor pole position （Show the motor rotor magnetic pole position of the encoder only at 00-21 (P. 300) = 5 effective) 24：Current target frequency 25：PTC Enter the percentage 26：Target pressure and feedback the constant pressure system 27：motor speed 28：Power factor 29：Power used KWH	0	
00-08	P.37	Speed display	0: Display output frequency(the mechanical speed is not displayed) 0.1~5000.0 1~50000	0.0	
00-09	P.259	Speed unit selection	X0：set speed unit to 1 X1：set speed unit to 0.1 0X: Power used with no decimal point 1X：Power used with one decimal point 2X：Power used with two decimal point	1	
00-10	reserved	reserved	reserved	--	--
00-11	P.72	Carrier frequency	A/B frame：1~15 kHz C/D frame：1~10 kHz E/F frame：1~9 kHz G/H frame：1~4 kHz	2 kHz 2 kHz 2 kHz 2 kHz	
00-12	P.31	Soft-PWM operation selection	0: None Soft-PWM operation 1: When 00-11(P.72)< 5, Soft-PWM is valid (only apply to V/F control)	0	
00-13	P.71	Idling braking /DC braking	0: Idling braking 1: DC braking	1	
00-14	P.75	Stop function selection	0: Press STOP button and stop the operation only in PU and H2 mode 1: Press STOP button and stop the operation in all mode.	1	
00-15	P.78	Forward/reverse rotation prevention selection	0: Forward rotation and reverse rotation are both permitted. 1: Reverse rotation is prohibited 2: Forward rotation is prohibited	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: The second operation mode, operating instruction is set by 00-18(P.109), the target frequency is set by 00-17(P.97)	0	
00-17	P.97	The second target frequency selection	0: Frequency set by operation panel 1: Frequency set by Communication RS485 2: Frequency set by the analog 3: Frequency set by communication expansion board 4: Reserved 5: Frequency set by HDI pulse	0	
00-18	P.109	The second start signal selection	0: Operating signal set by operation panel 1: Operating signal set by digital input terminal 2: Operating signal set by Communication RS485 3: Operating signal set by communication expansion board	0	
00-19	P.35	Communication mode instruction selection	0: In communication mode, operating instruction and setting frequency is set by communication. 1: In communication mode, operating instruction and setting frequency is set by external.	0	
00-21	P.300	Motor control mode selection	0: Induction motor V/F control 1: Reserved 2: Induction motor simple vector control 3: Induction motor sensor without speed vector control 6: Synchronous motor without PG vector control	0	
00-22	P.370	The second motor control mode selection	0: Induction motor V/F control 1: Induction motor V/F close-loop control (VF+PG) 2: Induction motor simple vector control 3: Induction motor sensor without speed vector control 4~ 5: Reserve 6: Synchronous motor without PG vector control 99999: The second motor control mode is not selected.	99999	
00-23	P.186	Motor types selection	0: Normal Duty (ND), apply to the fans and water pump type duty. 1: Heavy Duty (HD), apply to other duties.	0	
00-24	P.189	50Hz/60Hz switch selection	0: The frequency parameter default value is 60Hz system. 1: The frequency parameter default value is 50Hz system.	0 1	
00-25	P.990	Parameter mode setting	0: Parameter is displayed as "group mode" 1: Parameter is displayed as "conventional P mode"	0	
00-26	P.125	Expansion board type	Read	Read only	

2) Basic Parameter Group 01

Group	No.	Name	Setting Range	Default Value	User Setting
01-00	P.1	Maximum frequency	0.00 ~ 01-02 (P.18) Hz： 55K/45KG and below model 0.00 ~ 01-02 (P.18) Hz：75K/55KG and above model	120.00Hz 60.00Hz	
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	120.00Hz	
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 pattern acceleration /deceleration curve 1 2: S pattern acceleration /deceleration curve 2 3: S pattern acceleration /deceleration curve 3	0	
01-06	P.7	Acceleration time	0 ~ 360.00s/0 ~ 3600.0s	20.00s	
01-07	P.8	Deceleration time	0 ~ 360.00s/0 ~ 3600.0s： 5.5K/3.7KG~7.5/5.5KG model 0 ~ 360.00s/0 ~ 3600.0s： 11K/7.5KG and above model	10.00s 30.00s	
01-08	P.21	Acc/Dec time unit	0: Time unit is 0.01s 1: Time unit is 0.1s	0	
01-09	P.20	Acc/Dec 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 ~ 30.0%： 5.5K/3.7KG~7.5K/5.5KG model 0 ~ 30.0%： 11K/7.5KG~55K/45KG model 0 ~ 30.0%： 75K/55KG and above model	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: Applicable to constant torque loads (convey belt, etc.) 1: Applicable to variable torque loads (fans and pumps, etc.) 2, 3: Applicable to ascending / descending loads. 4: Multipoint V/F broken line 5 ~ 13: Special two-point V/F broken line 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：invalid	99999	
01-17	P.92	Frequency jump 1B	0 ~ 650.00Hz 99999：invalid	99999	
01-18	P.93	Frequency jump 2A	0 ~ 650.00Hz 99999：invalid	99999	
01-19	P.94	Frequency jump 2B	0 ~ 650.00Hz 99999：invalid	99999	
01-20	P.95	Frequency jump 3A	0 ~ 650.00Hz 99999：invalid	99999	
01-21	P.96	Frequency jump 3B	0 ~ 650.00Hz 99999：invalid	99999	
01-22	P.44	The second Acc time	0 ~ 360.00s/0 ~ 3600.0s 99999：Not selected	99999	
01-23	P.45	The second Dec time	0 ~ 360.00s/0 ~ 3600.0s 99999：Not selected	99999	
01-24	P.46	The second torque boost	0 ~ 30.0% 99999：Not selected 99999：Not selected	99999	
01-25	P.47	The second base frequency	0 ~ 650.00Hz 99999：Not selected	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：Not selected	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：Not selected	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：Not selected	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：Not selected	99999	
01-35	P.169	Output voltage 5 of middle frequency	0 ~ 100.0%	0.0%	
01-36	P.255	S pattern time at the beginning of Acc	0 ~ 25.00s/0 ~ 250.0s	0.20s	
01-37	P.256	S pattern time at the end of Acc	0 ~ 25.00s/0 ~ 250.0s 99999：Not selected	99999	
01-38	P.257	S pattern time at the beginning of Dec	0 ~ 25.00s/0 ~ 250.0s 99999：Not selected	99999	
01-39	P.258	S pattern time at the end of Dec	0 ~ 25.00s/0 ~ 250.0s 99999：Not selected	99999	
01-40	P.219	Remote function acc/dec time selection	0：Use default acc/dec time (same as regular mode) 1：Use second acc/dec time	0	

3) Analog Input and Output Parameter Group 02

Group	No.	Name	Setting Range	Default Value	User Setting
02-00	P.500	Function selection of terminal 2-5	0: Non-function 1: Frequency reference 2: Torque reference 3: PID target value 4: PID feedback signal 5~10：reserved 11：PTC 12：PT100 13：VF detached function	1	
02-01	P.501	Function of terminal 4-5	Same as 02-00	1	
02-02	P.504	Function of terminal 3-5	Same as 02-00	0	
02-03	P.503	Function of terminal HDI	Same as 02-00	0	
02-04	P.54	AM1 output function selection	0: Output frequency, frequency display reference 02-51 (P.55) is 100%. 1.Output current, use 02-52 (P.56) value as 100%. 2: Output DC bus voltage, the OV level is 100%. 3: Output temperature rising accumulation rate, NTC level is 100%. 4: Output electronic thermal rate of inverter, electronic thermal relay running (06-00(P.9)≠0) or electronic thermal relay of inverter's IGBT module running (06-00(P.9)=0) is 100%. 5: Target frequency, frequency display reference 02-51(P.55) is 100%. 6: Fixed level output, voltage or current output level is set by 02-54(P.541)/02-53(P.539) 7: Output voltage, inverter rated voltage is 100% 8: Excitation current, the motor rated current is 100%. (Valid only when 00-21(P.300) or 00-22(P.370) is set to 3~6) 9: Output torque, two times motor rated torque is 100%.(Valid only when 00-21(P.300) or 00-22(P.370) is set to 3~6) 10: Output power, two times motor rated power is 100%. 11: The high-speed pulse, 100.00KHz is 100%. 12: Motor speed, to display the level of 02-51(P.55) is 100% 13：PLC analog output, details refer to SA3 embedded PLC instructions	0	

Group	No.	Name	Setting Range	Default Value	User Setting
02-05	P.537	Function of terminal AM2 output	6: Steady level output, voltage or current level is set by 02-53(P.539).	0	
			0~5, 7~13: Same as 02-04.		
02-06	P.185	Proportion linkage gain	0 ~ 100%	0%	
02-07	P.240	Auxiliary frequency	0: No auxiliary frequency function is available.	0	
			1: Operation freq. = basic freq. + auxiliary Freq. (from 2-5 terminal)		
			2: Operation freq. = basic freq. + auxiliary freq. (from 4-5 terminal)		
			3: Operation freq. = basic freq. - auxiliary Freq. (from 2-5 terminal)		
			4: Operation freq. = basic freq.- auxiliary freq. (from 4-5 terminal)		
			5: Operation frequency = terminal 2-5 as the proportion linkage signal		
			6: Operation frequency = terminal 4-5 as the proportion linkage signal		
			7: Operation frequency = terminal 3-5 as the proportion linkage signal		
			8: Operation freq. = basic freq. + auxiliary Freq. (from 3-5 terminal)		
			9: Operation freq. = basic freq. - auxiliary Freq. (from 3-5 terminal)		
02-08	P.73	2-5 signal selection	0: The valid range of signal sampling is 0~5V.	1	
			1: The valid range of signal sampling is 0~10V.		
			2: The valid range of signal sampling is 0~-5V.		
			3: The valid range of signal sampling is 0~-10V.		
			4: The valid range of signal sampling is -5 ~ +5V.		
			5: The valid range of signal sampling is -10 ~ +10V.		
02-09	P.38	2-5 maximum operation frequency	50Hz system: 1.00 ~ 650.00Hz	50.00H	
			60Hz system: 1.00 ~ 650.00Hz	60.00H	
02-10	P.60	2-5 filter time	0 ~ 2000ms	30ms	
02-11	P.139	The bias rate of 2-5 voltage signal	-100.0%~100.0%	0.0%	
02-12	P.192	The minimum input positive voltage of 2-5	0 ~ 10.00V	0.00V	
02-13	P.193	The maximum input positive voltage of 2-5	0 ~ 10.00V	10.00V	
02-14	P.194	The percentage corresponding to the minimum positive voltage of terminal 2-5	-100.0% ~ 100.0%	0.0%	
02-15	P.195	The percentage corresponding to the maximum positive voltage of terminal 2-5	-100.0% ~ 100.0%	100.0%	
02-16	P.512	The minimum input negative voltage of 2-5	0 ~ 10.00V	0.00V	
02-17	P.513	The maximum input negative voltage of 2-5	0 ~ 10.00V	0.00V	
02-18	P.510	The percentage corresponding to the minimum negative voltage of termianl 2-5	-100.0% ~ 100.0%	0.0%	
02-19	P.511	The percentage corresponding to the maximum negative voltage of 2-5	-100.0% ~ 100.0%	0.0%	
02-20	P.17	4-5 signal selection	0: The effective range of signal sampling is 4~20MA .	0	
			1: The effective range of signal sampling is 0 ~ 10V.		
			2: The effective range of signal sampling is 0 ~ 5V.		
02-21	P.39	Maximum operation frequency of 4-5	50Hz system: 1.00 ~ 650.00Hz	50.00H	
			60Hz system: 1.00 ~ 650.00Hz	60.00H	
02-22	P.528	4-5 filter time	0 ~ 2000ms	30ms	
02-23	P.505	The bias rate of 4-5 current/voltage signal	-100.0% ~ 100.0%	0.0%	
02-24	P.184	4-5 disconnection selection	0:Without disconnection selection	0	
			1: Decelerate to 0Hz, the digital output terminal will set off the alarm		
			2: The inverter will stop immediately, and the panel will display the “AEr”		
			3 : Run with the frequency before disconnect, output alarm by I/O		
02-25	P.198	The minimum input	0 ~ 20.00mA	4.00mA	
02-26	P.199	The maximum input	0 ~ 20.00mA	20.00m	
02-27	P.196	The percentage corresponding to the minimum input current/voltage of 4-5	-100.0% ~ 100.0%	0.0%	
02-28	P.197	The percentage corresponding to the maximum input current/voltage of 4-5	-100.0% ~ 100.0%	100.0%	
02-29	P.531	3-5 signal selection	0: The valid range of signal sampling is 4 ~ 20mA.	1	
			1: The valid range of signal sampling is 0 ~ 10V.		
			2: The valid range of signal sampling is 0 ~ 5V.		
02-30	P.508	The maximum operation frequency of 3-5	50Hz system: 1.00 ~ 650.00Hz	50.00Hz	
			60Hz system: 1.00 ~ 650.00Hz	60.00Hz	
02-31	P.527	3-5 filter time	0 ~ 2000ms	30ms	
02-32	P.507	The bias rate of 3-5 current/voltage signal	-100.0% ~ 100.0%	0.0%	
02-33	P.545	3-5 disconnection selection	0: No disconnection selection.	0	
			1: Decelerate to 0 Hz, the digital output terminal will set off the alarm.		
			2: The inverter will stop immediately, and the panel will display the “AEr” alarm.		
			3: The inverter will run continuously according to the frequency reference before the disconnection. The digital output terminal will set off the alarm.		

Group	No.	Name	Setting Range	Default Value	User Setting
02-34	P.548	Minimum input current/voltage of 3-5	0 ~ 10.00V	0.00V	
02-35	P.549	Maximum input current/voltage of 3-5	0 ~ 10.00V	10.00V	
02-36	P.546	The percentage corresponding to the minimum input current/voltage of 3-5	-100.0% ~ 100.0%	0.0%	
02-37	P.547	The percentage corresponding to the maximum input current/voltage of 3-5	-100.0% ~ 100.0%	100.0%	
02-38	P.526	HDI filter time	0 ~ 2000ms	10ms	
02-39	P.524	HDI input minimum frequency	0 ~ 100.00kHz	0 kHz	
02-40	P.525	HDI input maximum frequency	0 ~ 100.00kHz	100kHz	
02-41	P.522	The percentage corresponding to HDI input minimum frequency	-100.0% ~ 100.0%	0.0%	
02-42	P.523	The percentage corresponding to HDI input maximum frequency	-100.0% ~ 100.0%	100.0%	
02-43	P.74	HDO frequency multiplication coefficient	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	FM output function selection	0: Output frequency, frequency display reference 02-51(P.55) is 100%.	0	
			1: Output current, the current monitoring reference 02-52(P.56) is 100%.		
			2: Output DC bus voltage, the OV level is 100%.		
			3: Output the temperature rising accumulation rate of inverter, the NTC level is 100%.		
			4: Output the electronic thermal rate of the inverter: The electronic thermal relay running (when 06-00(P.9)≠0) or the electronic thermal relay of the inverter’s IGBT module running (when 06-00(P.9)=0) is 100%.		
			5: Target frequency, frequency display reference 02-51(P.55) is 100%.		
			6: Fixed voltage output, voltage output level is set by 02-54 (P.541).		
			7: Output voltage, the inverter rated voltage is 100%.		
			8 : Excitation current, motor rated current is 100%(Valid only when 00-21(P.300) or 00-22(P.370) is set to 3~6)		
			9: Output torque, two times motor rated torque is 100% (Valid only when 00-21 (P.300) or 00-22 (P.370) is set to 3~6)		
			10: Output power, two times motor rated power is100%.		
			11: The high-speed pulse as 100.00KHz is 100%.		
			12: Motor speed as displaying the level of 02-51(P.55) is 100%.		
02-45	P.64	AM1 output signal selection	0: 0~10V voltage can be output across terminal AM1-5.	0	
			1: Reserve		
			2: 0~20mA current can be output across AM1-5.		
			3: 4~20mA current can be output across AM1-5.		
02-46	P.191	AM1 output gain	0 ~ 150.00%	100%	
02-47	P.190	AM1 output bias	0 ~ 150.00%	0.00%	
02-48	P.538	AM2 output signal selection	Same as 02-45	0	
02-49	P.536	AM2 output gain	0 ~ 150.00%	100%	
02-50	P.535	AM2 output bias	0 ~ 150.00%	0.00%	
02-51	P.55	Frequency display reference at the analog output	50Hz system: 1.00 ~ 650.00Hz	50Hz	
			60Hz system: 1.00 ~ 650.00Hz	60Hz	
02-52	P.56	Current monitoring reference at the analog output	0~500.00A: Types below Frame G	By types	
			0~5000.0A: Frame G and types above		
02-53	P.539	AM2 fixed output level	0 ~ 100.0%	0.0%	
02-54	P.541	AM1/FM fixed output level	0 ~ 100.0%	0.0%	
02-55	P.592	PT100 voltage level 1	0 ~ 10.00V	5.00V	
02-56	P.593	PT100 voltage level 2	0 ~ 10.00V	7.00V	
02-57	P.594	PT100 level 1 starting frequency	0 ~ 650.00Hz	0.00Hz	
02-58	P.595	Starting PT100 level 1 delay time	0 ~ 6000s	60s	
02-59	P.187	FM calibration parameter	0 ~ 9998	450	

4) Digital Input/ Output Parameter Group 03

Group	No.	Name	Setting Range	Default Value	User Setting
03-00	P.83	STF function selection	0: STF (the inverter runs forward)	0	
			1: STR (the 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 priority)		
			6: The external thermal relay operation		
			7: MRS (the instantaneous stopping of the output)		
			8: RT (the 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		

Group	No.	Name	Setting Range	Default Value	User Setting
03-00	P.83	STF function selection	16 : STF+RM	0	
			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 (the inverter runs forward)		
			29: STF/STR (it is used with RUN, when STF/STR is“on”, the inverter runs reversal ; when STF/STR is “off”, the inverter runs foreward)		
			30: RES (external reset function)		
			31: STOP (it can be used as a three-wire mode with the RUN signal or the STF-STR terminal)		
			32: REX (multi-speed set (16 levels))		
			33: PO (in “external mode", programmed operation mode is chosen)		
			34: RES_E (external Reset signal become valid only when the alarm goes off.)		
			35: MPO (in “external mode” the manually operation cycle mode is chosen.)		
			36: TRI (triangle wave function is chosen)		
			37: GP_BP (Automatic switch over frequency between inverter and commercial power-supply operation.)		
			38: CS(Manual switch to commercial power supply)		
			39: STF/STR +STOP(The motor has a reverse rotation when the RUN		
			40: P_MRS (the inverter output instantaneously stops, The MRS is pulse		
			41: PWM setting frequency		
			42: Reserve		
			43: RUN_EN (the digital input terminal running enable)		
			44: PID_OFF (the digital input terminal stopping PID enable)		
			45 : The second mode		
			46~56 : reserved		
			57: High-speed pulse input function		
			58: Analog terminal 2-5 priority		
			59: Analog terminal 3-5 priority		
			60: Starting/Stopping of PLC		
			61~64 : reserved		
			65: External accelerate/decelerate pause		
			66: External forced stop		
			67~71 : reserved		
			72 : Pump 1 manual soft start		
			73 : Pump 2manual soft start		
			74 : Pump 3 manual soft start		
			75 : Pump 4 manual soft start		
			76 : Pump 5 manual soft start		
			77 : Pump 6 manual soft start		
			78 : Pump 7 manual soft start		
			79 : Pump 1 failure		
			80 : Pump 2 failure		
			81 : Pump 3 failure		
			82 : Pump 4 failure		
			83 : Pump 5 failure		
			84 : Pump 6 failure		
			85 : Pump 7failure		
			86 : Failure of all pumps		
			87~89 : reserved		
			90 : Upper level of sump		
			91 : Lower limit of sump water level		
			92 : Fire mode command 1 (with run command)		
			93 : Fire mode command 2 (without run command)		
			99999 : Not choose in addition of terminal function		
03-01	P.84	STR function selection	Same as 03-00	1	
03-02	P.86	RES function selection	Same as 03-00	30	
03-03	P.80	M0 function selection	Same as 03-00	2	
03-04	P.81	M1 function selection	Same as 03-00	3	
03-05	P.82	M2 function selection	Same as 03-00	4	
03-06	P.126	M3 function selection	Same as 03-00	5	
03-07	P.127	M4 function selection	Same as 03-00	8	
03-08	P.128	M5 function selection	Same as 03-00	7	
03-09	P.550	HDI terminal function	Same as 03-00	57	
03-10	P.40	SO1-SE function	0: RUN (inverter running)	1	
			1: SU (reaching the output frequency)		
			2: FU (output frequency detection)		
			3: OL (overload detection)		
			4: OMD (zero current detection)		
			5: ALARM (alarm detection)		
			6: PO1 (programmed operation section detection)		
			7: PO2 (programmed operation periodical detection)		

Group	No.	Name	Setting Range	Default Value	User Setting
03-10	P.40	SO1-SE function	8: PO3 (programmed operation pause detection)	1	
			9: BP (Switch between the power frequence and the frequency conversion, the power frequence output)		
			10: GP (Switch between the power frequence and the frequency conversion, the frequency conversion output)		
			11:OMD1 (Zero current detection)		
			12：Pump 1 frequency conversion control		
			13：Pump 1 power frequency control		
			14：Pump 2 frequency conversion control		
			15：Pump 2 power frequency control		
			16: Reserve		
			17: RY (the accomplishment of inverter running preparation)		
			18: Maintenance alarm function detection		
			19: OL2 (Over torque alarm output)		
			20: Capacitor lifetime abnormal		
			21~22：reserved		
			23：Power marker detection		
			24：Pump 3 frequency conversion control		
			25：Pump 3 power frequency control		
			26：Pump 4 frequency conversion control		
			27：Pump 4 power frequency control		
			28：Pump 5 frequency conversion control		
			29：Pump 5 power frequency control		
			30：Pump 6 frequency conversion control		
			31：Pump 6 power frequency control		
			32：Pump 7 frequency conversion control		
			33：Pump 7 power frequency control		
			34：Indication of dormant operation		
			35：Hydraulic overpressure indication		
			36：Underpressure indication of water pressure		
			37~38：reserved		
			39：Power frequency control of dormant pump (16-01~16-07 have been set to sleep pump this function is invalid.)		
			40 :Sewage pump power frequency control(16-01~16-07 have been set to sleep pump this function is invalid.)		
			41：PID feedback line break (AEr) alarm		
			42：Fire mode indication		
			43：Fire mode bypass indication		
03-11	P.85	A1-B1-C1 function selection	Same as 03-10	5	
03-12	P.129	SO2-SE function selection	Same as 03-10	2	
03-13	P.130	A2-B2-C2 function selection	Same as 03-10	0	
03-14	P.87	Multi-function terminal digital input negative/positive logic	0 ~ 1023	0	
03-15	P.88	Multi-function terminal digital output negative/ positive logic(noumenon and slot 3)	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 power enable	0: Digital input terminal power unable	0	
			1: Digital input terminal power enable		
03-19	Reserve	Reserve	Reserve	--	--
03-20	P.41	Up-to-frequency sensitivity	0 ~ 100.0%	10.0%	
03-21	P.42	Output frequency	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: Function invalid		
03-24	P.63	Zero current detection time	0 ~ 100.00s	0.50s	
			99999: Function invalid		
03-25	P.551	Expanded digital input terminal M10	Same as 03-00	99999	
03-26	P.552	Expanded digital input terminal M11	Same as 03-00	99999	
03-27	P.553	Expanded digital input terminal M12	Same as 03-00	99999	
03-28	P.554	Expanded digital input terminal M13	Same as 03-00	99999	
03-29	P.555	Expanded digital input terminal M14	Same as 03-00	99999	
03-30	P.556	Expanded digital input terminal M15	Same as 03-00	99999	
03-41	P.567	Expanded digital input terminal negative / positive logic	0 ~ 65535	0	
03-42	P.568	Expanded digital output terminal A10	Same as 03-10	99999	
03-43	P.569	Expanded digital output terminal A11	Same as 03-10	99999	
03-44	P.570	Expanded digital output terminal A12	Same as 03-10	99999	
03-45	P.571	Expanded digital output terminal A13	Same as 03-10	99999	
03-46	P.572	Expanded digital output terminal A14	Same as 03-10	99999	
03-47	P.573	Expanded digital output terminal A15	Same as 03-10	99999	
03-48	P.574	Expanded digital output terminal A16	Same as 03-10	99999	
03-49	P.575	Expanded digital output terminal A17	Same as 03-10	99999	
03-59	P.585	Monitor noumenon digital input terminal state	Read	Read	
03-60	P.586	Monitor noumenon and expanded output terminal state	Read	read	
03-61	P.587	Monitor expanded digital input terminal state	Read	read	
03-62	P.588	reserved			

5) Multi-speed Parameter Group 04

Group	No.	Name	Setting Range	Default Value	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	
			99999: Function invalid		
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	Minute/second selection	0: The unit of selection time is minute.	1	
			1: The unit of selection time is second.		
04-16	P.121	Run direction in each section	0 ~ 255	0	
04-17	P.122	Cycle selection	0: Cycle function is invalid	0	
			1 ~ 8: Run circularly from the setting section.		
04-18	P.123	Acceleration/deceleration time setting selection	0:Acc. time is determined by 01-06, Dec. time is determined by 01-07).	0	
			1: Acc. time and Dec. time are both determined by 04-35 ~ 04-42 .		
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 Value	User Setting
05-00	P.301	Motor parameter auto-tuning function selection	0: Parameter auto-tuning function with no motor	0	
			1: Induction motor parameter auto-tuning measuring1 [the running motor]		
			2: Induction motor parameter auto-tuning measuring2 [the stopped motor]		
			3: Induction motor online auto-tuning function		
			5 : Induction motor parameters automatic measurement3 [Measurement of motor is not running]		
			8: Synchronous motor parameter auto-tuning		
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	440V	
05-04	P.305	Motor rated frequency	50Hz system：0 ~ 650.00Hz	50.00Hz	
			60Hz system：0 ~ 650.00Hz	60.00Hz	
05-05	P.306	Motor rated current	0~500.00A：Types below frame G	By types	
			0~5000.0A：Types and above frame G		
05-06	P.307	Motor rated rotation speed	50Hz system：0 ~ 65000r/min	1410 r/min	
			60Hz system：0 ~ 65000r/min	1710 r/min	
05-07	P.308	Motor excitation current	0~500.00A：Types below frame G	By types	
			0~5000.0A：Types and above frame G		
05-08	P.309	IM motor stator resistance	0 ~ 65000mΩ：55K/ 45KG Types and below	By types	
			0 ~ 650.00mΩ：75K/55KG Types and above		
05-09	P.310	IM motor rotor resistance	0 ~ 65000mΩ：55K/45KG Types and below	By types	
			0 ~ 650.00mΩ：75K/55KG Types and above		
05-10	P.311	IM motor leakage inductance	0 ~ 6500.0mH：55K/45KG Types and below	By types	
			0 ~ 650.00mH：75K/55KG Types and above		
05-11	P.312	IM motor mutual inductance	0 ~ 6500.0mH：55K/45KG Types and below	By types	
			0 ~ 650.00mH：75K/55KG Types and above		
05-12	P.313	PM motor stator resistance	0 ~ 65000mΩ：55K/45KG Types and below	By types	
			0 ~ 650.00mΩ：75K/55KG Types and above		
05-13	P.314	PM motor d-axis inductance	0 ~ 650.00Mh	By types	
05-14	P.315	PM motor q-axis inductance	0 ~ 650.00mH	By types	
05-15	P.316	PM motor back-emf coefficient	0 ~ 6500.0V/krpm	By types	
05-17	P.318	Rotation inertia	0 ~ 6.5000kg. m²: 5.5K/7.5KG and types below	By types	
			0 ~ 65.000kg. m²: 7.5K/11KG~ 90K/110KG types		
			0 ~ 650.00kg. m²: 110K/132KG and types above		
05-18	P.319	Load inertia ratio	0~600.0	1.0	
05-22	P.332	The second motor rated power	0 ~ 650.00kW	99999	
			99999		
05-23	P.333	The second motor poles	0 ~ 256	99999	
			99999		
05-24	P.334	The second motor rated voltage	0 ~ 510V	99999	
			99999		
05-25	P.335	The second motor rated frequency	0 ~ 650.00Hz	99999	
			99999		
05-26	P.336	The second motor rated current	0~500.00A：Types below frame G	99999	
			0~5000.0A：Types and above frame G		
			99999		
05-27	P.337	The second motor rated rotation speed	0 ~ 65000r/min	99999	
			99999		
05-28	P.338	The second motor excitation current	0~500.00A：Types below frame G	99999	
			0~5000.0A：Types and above frame G		
			99999		
05-29	P.339	The second motor (IM) stator resistance	0 ~ 65000mΩ：55K/45KG Types and below	99999	
			0 ~ 650.00mΩ：75K/55KG Types and above		
			99999		
05-30	P.340	The second motor (IM) rotor resistance	0 ~ 65000mΩ：55K/45KG Types and below	99999	
			0 ~ 650.00mΩ：75K/55KG Types and above		
			99999		
05-31	P.341	The second motor (IM) leakage inductance	0 ~ 6500.0mH：55K/45KG Types and below	99999	
			0 ~ 650.00mH：75K/ 55KG Types and above		
			99999		
05-32	P.342	The second motor (IM) mutual inductance	0 ~ 6500.0mH：55K/45KG Types and below	99999	
			0 ~ 650.00mH：75K/55KG Types and above		
			99999		
05-33	P.343	The second motor (PM) stator resistance	0 ~ 65000mΩ：55K/45KG Types and below	99999	
			0 ~ 650.00mΩ：75K/55KG Types and above		
			99999		
05-34	P.344	The second motor (PM) d-axis inductance	0 ~ 650.00mH	99999	
			99999		

Group	No.	Name	Setting Range	Default Value	User Setting
05-35	P.345	The second motor (PM) q-axis inductance	0 ~ 650.00mH	99999	
			99999		
05-36	P.346	The second motor (PM) back-emf coefficient	0 ~ 6500.0V/krpm	99999	
			99999		
05-38	P.394	Second motor inertia	0 ~ 6.5000kg.m² : 7.5K/5.5KG Types and below	99999	
			0 ~ 65.000kg.m² : 11K/7.5KG ~ 110K/90KG types		
			0 ~ 650.00kg.m²: 132K/110KG Types and above		
			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 Value	User Setting
06-00	P.9	Electronic thermal relay capacity	0~500.00A: Types below Frame G	By type	
			0~5000.0A: Frame G and types above		
06-01	P.22	Stall prevention operation level	0 ~ 400.0%	120.0%	
06-02	P.23	Compensation factor at level reduction	0 ~ 150.0%	99999	
			99999: Stall prevention operation level is the setting value of 06-01(P.22).		
06-03	P.66	Stall prevention operation reduction starting frequency	50Hz system: 0 ~ 650.00Hz	50.00Hz	
			60Hz system: 0 ~ 650.00Hz	60.00Hz	
06-04	P.220	Current stall selection of time of acceleration and deceleration	0: According to the current time of Acc/Dec	3	
			1: According to the first time of Acc/Dec		
			2: According to the second time of Acc/Dec		
			3:Automatically calculate the best time of Acc/Dec		
06-05	P.30	Regenerative brake function selection	0: If regenerative brake use rate fixed at 3%, 06-06(P.70) will be invalid.	0	
			1: The regenerative brake use rate is 06-06(P.70) value.		
			2: External brake unit protection function (For D and above frame models)	2	
06-06	P.70	Special regenerative brake duty	0 ~ 100.0%	0.0%	
06-07	P.263	Decrease carrier protection setting	0: Rated carrier frequency, limit load current according to the setting carrier.	0	
			1: Rated current, limit carrier according to the load current and temperature.		
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	Over torque detection selection	0: OL2 alarm not occur when over torque detection, inverter keeps running.	1	
			1:OL2 alarm occurs once over torque detection, and inverter stops.		
06-11	P.160	Stall level when restart	0 ~ 150.0%	100.0%	
06-12	P.245	Cooling fan operation	0 : Fan power on when running. Fan power off after 30s inverter stops.	0	
			1 : Turning on the power will turn on the fan. When the power is turned off, the fan will be off, too.		
			2 : The fan will be turned on if the temperature of the heat sink is higher than 40℃. When the power is turned off, the fan will be turned off, too.		
			3 : The fan will be turned on when the temperature of the heat sink is higher than 60℃. When it is lower than 40℃, the fan will be turned off.		
06-13	P.281	Input phase failure protection selection	0: No phase failure protection function	0	
			1: Phase failure protection, inverter display IPF alarm and output stops.		
06-14	P.287	SCP Short circuit protection function	0: No the output end short-circuits protection function.	1	
			1: If output side short, operation panel display “SCP” alarm and output stops.		
06-15	P.533	The process mode of PTC alarm	0: Alarm and continue to run	0	
			1: Alarm and decelerate to stop		
			2: Alarm and stop freely		
			3: No alarm		
06-16	P.534	The percentage of PTC level	0 ~ 100.0%	0.0%	
06-17	P.261	Maintenance alarm function	0: No maintenance alarm	0	
			1 ~ 9998day: Used to set time when maintenance alarm sends out signal		
06-19	P.282	Operation GF detection level	280k/315KF types below:0~100.0%	50.0%	
			315K/355KF type:0~100.0%	70.0%	
06-20	P.262	Output phase failure protection	0: No output phase failure protection selection	0	
			1: Output phase failure protection, the operation panel will display the “LF” abnormal alarm and the inverter will stop the output.		
06-21	P.705	Low voltage level	310 ~ 440V : 440V types	310V	
06-22	P.706	Regenerative brake operation level	410 ~ 800V : 440V types	720V	
06-23	P.707	Voltage stall level	410 ~ 800V : 440V types	760V	
06-24	P.708	Capacitor lifetime detection	0~10	0	
06-25	P.709	Capacitor lifetime detection level	0 ~ 100.0%	100.0%	
06-26	P.710	Capacitor lifetime detection result	0: No abnormal signal.	Read	
			1: Electrolytic capacitor abnormal.		
06-27	P.292	Accumulative motor operation time (minutes)	0 ~ 1439min	0min	
06-28	P.293	Accumulative motor operation time (days)	0 ~ 9999day	0day	
06-29	P.296	Accumulative motor power time (minutes)	0 ~ 1439min	0min	
06-30	P.297	Accumulative motor power time (days)	0 ~ 9999day	0day	
06-31	P.298	Output power(lower 16 bit)	Read	Read	
06-32	P.299	Output power (Higher16 bit)	Read	Read	
06-40	P.288	Alarm code query	0 ~ 12	1	
06-41	P.289	Alarm code display	Read	Read	
06-42	P.290	Alarm message query	0 ~ 10	0	
06-43	P.291	Alarm message display	Read	Read	
06-44	P.740	E1	Read	Read	
06-45	P.741	E2	Read	Read	
06-46	P.742	E3	Read	Read	
06-47	P.743	E4	Read	Read	
06-48	P.744	E5	Read	Read	
06-49	P.745	E6	Read	Read	
06-50	P.746	E7	Read	Read	
06-51	P.747	E8	Read	Read	
06-52	P.748	E9	Read	Read	
06-53	P.749	E10	Read	Read	
06-54	P.750	E11	Read	Read	
06-55	P.751	E12	Read	Read	
06-56	P.752	E1 alarm output frequency	Read	Read	
06-57	P.753	E1 alarm output current	Read	Read	
06-58	P.754	E1 alarm output voltage	Read	Read	
06-59	P.755	E1 alarm the temperature rising accumulation rate	Read	Read	
06-60	P.756	E1 alarm PN voltage	Read	Read	
06-61	P.757	E1 alarm the time of inverter has run	Read	Read	
06-62	P.758	E1 alarm inverter operation status code	Read	Read	
06-63	P.759	E1 alarm (years/months)	Read	Read	
06-64	P.760	E1 alarm (days/hours)	Read	Read	
06-65	P.761	E1 alarm (minutes/seconds)	Read	Read	
06-70	P.766	E2 alarm output frequency	Read		
06-71	P.767	E2 alarm output current	Read		
06-72	P.768	E2 alarm output voltage	Read		
06-73	P.769	E2 alarm the temperature rising accumulation rate	Read		
06-74	P.770	E2 alarm PN voltage	Read	Read	
06-75	P.771	E2 alarm the time of inverter has run	Read	Read	
06-76	P.772	E2 alarm inverter operation status code	Read	Read	
06-77	P.773	E2 alarm (years/months)	Read	Read	
06-78	P.774	E2 alarm (days/hours)	Read	Read	
06-79	P.775	E2 alarm (minutes/seconds)	Read	Read	
06-84	P.1040	Fire mode	XXX0:Off (fire mode off (normal mode)	0	
			XXX1:Forward operation (inverter runs forward in fire mode)		
			XXX2:Reverse operation (inverter runs reverse in fire mode)		
			XX0X:Bypass off (close bypass function)		
			XX1X:Bypass on (enable bypass function)		
			X0XX:Open loop control (inverter will speed up to fire mode frequency 06-85 (P.1041))		
			X1XX:Closed loop control (run in PID, PID target set in 06-87 (P.1043))		
			0XXX:Manual exit fire mode (after the fire mode terminal function is off, manually reset inverter to go to normall mode)		
			1XXX:Auto exit fire mode (after the fire mode terminal function is off, inverter automatically return to normal mode)		
06-85	P.1041	Fire mode frequency	0~650.00Hz	60.00Hz	
06-86	P.1042	Fire mode bypass delay	0.0~6000.0s	0.0s	
06-87	P.1043	Fire mode PID target	0~08-43 (P.251)	0.0	
06-88	P.1044	Fire mode cumulate times	Read only	Read only	

8) Communication Parameter Group 07

Group	No.	Name	Setting Range	Default Value	User Setting
07-00	P.33	COM1 Communication protocol selection	0: Modbus protocol	1	
			1: Shihlin protocol		
			2 : PLC protocol (Effective when using the shilin built-in PLC)		
07-01	P.36	COM1 Inverter station number	0 ~ 254	0	
07-02	P.32	COM1 Serial communication Baud rate selection	0: Baud rate:4800bps	1	
			1: Baud rate:9600bps		
			2: Baud rate:19200bps		
			3: Baud rate:38400bps		
			4: Baud rate:57600bps		
			5: Baud rate:115200bps		
07-03	P.48	COM1 Data length	0: 8bit	0	
			1: 7bit		
07-04	P.49	COM1 Stop bit length	0: 1bit	0	
			1: 2bit		
07-05	P.50	COM1 Parity check selection	0: No parity verification	0	
			1: Odd		
			2: Even		
07-06	P.51	COM1 CR/LF selection	1: CR only	1	
			2: Both CR and LF		
07-07	P.154	COM1 Modbus communication format	0: 1, 7, N, 2 (Modbus, ASCII)	4	
			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)		
07-08	P.52	COM1 Number of communication retries	0 ~ 10	1	
07-09	P.53	COM1Communication check time interval	0 ~ 999.8s: Use the set value for the communication overtime test.	99999	
			99999: No communication overtime test.		
07-10	P.153	COM1Communication error handling	0: Warn and call to stop	0	
			1: No warning and keep running		
07-11	P.34	Communication EEPROM write selection	0: If parameter write is performed, write them to RAM and EEPROM	0	
			1: If parameter write is performed, write them to RAM only.		
07-15	P.800	CANopen slave address	0 ~ 127	0	
07-16	P.801	CANopen speed	0: 1 Mbps	0	
			1: 500 Kbps		
			2: 250 Kbps		
			3: 125 Kbps		
			4: 100 Kbps		
			5: 50 Kbps		
07-17	P.802	CANopen communication status	0: Node reset state	0	
			1: Communication reset state		
			2: Boot up state	0	
			3: Pre operation state		
			4: Operation state		
			5: Stop state		
07-18	P.803	CANopen control status	0: Not ready for use state	0	
			1: Inhibit start state		
			2: Ready to switch on state		
			3: Switched on state		
			4: Enable operation state		
			7: Quick stop active state		
			13: Err reaction activation state		
			14: Error state		
07-25	P.810	PUCommunication protocol selection	0 : Modbus protocol	1	
			1 : shilin protocol		
			2 : PLC protocol (Effective when using the shilin built-in PLC)		
07-26	P.811	PUconverter stations	0 ~ 254	0	
07-27	P.812	PUSerial communication baud rate	0 : Baud rate 4800bps	1	
			1 : Baud rate 9600bps		
			2 : Baud rate 19200bps		
			3 : Baud rate 38400bps		
			4 : Baud rate 57600bps		
			5 : Baud rate 115200bps		
07-28	P.813	PU data length	0 : 8bit	0	
			1 : 7bit		
07-29	P.814	PU stop bit	0 : 1bit	0	
			1 : 2bit		
07-30	P.815	PU Parity check option	0 : no odd-even check	0	
			1 : odd check		
			2 : even check		
07-31	P.816	PU CR/LFchoose	1 : only CR	1	
			2 : CR,LF Both		
07-32	P.817	PU Modbus communication format	0 : 1、7、N、2 (Modbus, ASCII)	4	
			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)		
07-33	P.818	PU Communication exception permit number	0 ~ 10	1	
07-34	P.819	PU Communication between permissible time	0 ~ 999.8s : To set data communication timeout inspection	99999	
			99999 : No time out inspection		
07-35	P.820	PUCommunication error handling	0 : Alarm and stop idling	1	
			1 : no alarm and keep on running		
07-41	P.826	Outside enlarge communication cartoon - exception permit number	0 ~ 10	1	
07-42	P.827	Outside enlarge communication card error handling	0 : Alarm and stop idling	1	
			1 : no alarm and keep on running		
07-43	P.828	Outside enlarge communication cad dispatch interval allowable time	0 ~ 999.8s : set data communication timeout inspection	99999	
			99999 : No timeout inspection		
07-44	P.829	EP301 Communication expansion card version number	read	read	

Group	No.	Name	Setting Range	Default Value	User Setting
07-45	P.830	IP allocation	0：static IP 1：dynamic IP	0	
07-46	P.831	IP Add 1	0~255	192	
07-47	P.832	IP Add 2	0~255	168	
07-48	P.833	IP Add 3	0~255	2	
07-49	P.834	IP Add 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 Value	User Setting
08-00	P.170	PID function selection	0: PID function is not selected 0X: Parameter 08-03(P.225) sets target value. 1X: Take the input of terminal 2-5 as target source 2X: Take the input of terminal 4-5 as target source 3X: Take the input of terminal 3-5 as target source 4X: Take the input of terminal HDI as target source X1: Take the input of terminal 2-5 as feedback source X2: Take the input of terminal 4-5 as feedback source X3: Take the input of terminal 3-5 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	Sampling period by PID	0 ~ 60000ms	20ms	
08-03	P.225	PID target value panel reference	0 ~ 100.0%	20.0%	
08-04	P.172	Proportion 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	Exception duration time	0 ~ 600.0s	30.0s	
08-09	P.177	Exception handling mode	0: Free stop 1: Decelerate and stop 2: Continue to run when the alarm goes off	0	
08-10	P.178	Sleep detects deviation	0 ~ 100.0%	0.0%	
08-11	P.179	Sleep detects duration time	0 ~ 255.0s	1.0s	
08-12	P.180	Revival level	0 ~ 100.0%	90.0%	
08-13	P.181	Outage level	0 ~ 120.00Hz	40.00Hz	
08-14	P.182	Integral upper limit	0 ~ 200.0%	100.0%	
08-15	P.183	Deceleration step length with stable pressure	0 ~ 10.00Hz	0.50Hz	
08-16	P.221	Minimum pressure sampling value	0 ~ 65535	0	
08-17	P.222	Maxmum pressure sampling value	0 ~ 65535	0	
08-18	P.223	Analog feedback bias pressure	0 ~ 100.0%	0.0%	
08-19	P.224	Analog feedback gain pressure	0 ~ 100.0%	100.0%	
08-20	P.641	Proportion 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	
08-24	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: Integral not separated 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 in forward direction deviation limit	0 ~ 100.00%	100.00%	
08-32	P.719	PID output in reverse direction deviation limit	0 ~ 100.00%	100.00%	
08-33	P.720	PID parameter switchover operation selection	0: No PID parameter switchover. 1: PID parameter switchover based on deviation.	0	
08-34	P.721	PID parameter switchover deviation lower limit	0 ~ 100.00%	20.00%	
08-35	P.722	PID parameter switchover deviation upper limit	0 ~ 100.00%	80.00%	
08-36	P.723	PID wire-break operation selection 1	0: When PID wire-break, select to no need operate to upper limit value. 1: When PID wire-break, select to need operate to upper limit value.	1	
08-39	P.726	PID operation at stop	0: No PID operation at stop. 1: PID Stop operation	0	
08-40	P.727	PID enable reverse run operation	0: PID reverse run is not allowed. 1: PID reverse run is allowed.	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: empty 3: kgs 4: kg 5: psi 6: Pa 7: kPa 8: MPa 9: C	0	
08-45	P.253	Analog signal feedback loss detection time	0.0~600.0s	0s	
08-46	P.254	Analog signal feedback loss action selection	0：Alarm AErr and inverter stop freely 1：Slow down to stop then alarm AErr 2：Alarm AErr and continue operation	0	

10) Application Parameter Group 10

Group	No.	Name	Setting Range	Default Value	User Setting
10-00	P.10	DC injection brake operation frequency	0 ~ 120.00Hz	3.00Hz	
10-01	P.11	DC injection brake operation time	0 ~ 60.0s	0.5s	
10-02	P.12	DC injection brake operation voltage	0 ~ 30.0% : 7.5K/5.5KG and below types 0 ~ 30.0% : 11K/7.5KG ~ 55K/45KG types 0 ~ 30.0% : 75K/55KG and above types	4.0% 2.0% 1.0%	
10-03	P.151	Zero-speed control function selection	0: There is no output at zero-speed. 1：Under VF control (00-21/22=0) do DC voltage braking	0	
10-04	P.152	Voltage at zero-speed control	0 ~ 30.0% : 7.5K/5.5KG and below types 0 ~ 30.0% : 11K/7.5KG ~ 55K/45KG types 0 ~ 30.0% : 75K/55KG and above types	4.0% 2.0% 1.0%	
10-05	P.242	DC injection brake function before start	0: DC injection brake function is not available before starting. 1: DC brake injection function is selected before starting.	0	
10-06	P.243	DC injection brake time before start	0 ~ 60.0s	0.5s	
10-07	P.244	DC injection brake voltage before start	0 ~ 30.0% : 7.5K/5.5KG(inclusive) and below types 0 ~ 30.0% : 11K/7.5KG ~ 55K/45KG types 0 ~ 30.0% : 75K/55KG (inclusive)and above types	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 coasting time	0 ~ 30.0s 99999: No restart function.	99999	
10-10	P.58	Restart cushion time	0 ~ 60.0s : 7.5K/5.5KG (inclusive)and below types 0 ~ 60.0s : 11K/7.5KG ~ 55K/45KG types 0 ~ 60.0s : 75K/55KG (inclusive)and above types	5.0s 10.0s 20.0s	
10-11	P.61	Remote setting function	X0: No remote setting function. X1: Remote setting function, frequency setup storage is available. X2: Remote setting function, frequency setup storage is not available. X3: Remote setting function, frequency setup storage is not X4: Remote control function, frequency save in memory every 5s 1X:Frequency command range 01-01(P.2)~01-00(P.1), frequency commandvalue from RH,RM setting	0	
10-12	P.65	Retry selection	0: Retry is invalid. 1: Over-voltage occurs,the inverter will perform the retry function. 2: Over-current occurs, the inverter will perform the retry function. 3: Over-voltage or over-current occurs, inverter will perform retry 4: All the alarms have the retry function.	0	
10-13	P.67	Number of retries at alarm occurrence	0: Retry is invalid. 1 ~ 10: Setting value of 10-13(P.67) exceed, don't perform retry function.	0	
10-14	P.68	Retry waiting time	0 ~ 360.0s	1.0s	
10-15	P.69	Retry accumulation time at alarm	Read	0	
10-16	P.119	The dead time of positive and reverse rotation	0 ~ 3000.0s	0.0s	
10-17	P.159	Energy-saving control function	0: Normal running mode. 1: Energy-saving running mode.	0	
10-18	P.229	Dwell function selection	0: No function 1: Back lash 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: None. 1: External TRI is turned on, triangular wave function will be valid. 2: The triangular wave function is effective at any given time.	0	
10-24	P.235	Maximum amplitude	0 ~ 25.0%	10.0%	
10-25	P.236	Amplitude compensation for Dec	0 ~ 50.0%	10.0%	
10-26	P.237	Amplitude compensation for Acc	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	MC switchover interlock time	0.1 ~ 100.0s	1.0s	
10-30	P.248	Start waiting time	0.1 ~ 100.0s	0.5s	
10-31	P.249	Switchover frequency from inverter to commercial power supply frequency	0 ~ 60.00Hz 99999: No automatic switchover order.	99999	
10-32	P.250	Automatic switchover frequency range	0 ~ 10.00Hz: When the inverter start reference (STF/STR) is turned off after the operation is changed from inverter operation to commercial power supply operation, the operation will be changed to the inverter operation. 99999: When the inverter start reference (STF/STR) is turned off after the operation is changed from inverter operation to commercial power supply operation, the operation will be changed to the inverter operation and the motor will decelerate until it stops.	99999	
10-33	P.273	Power failure stop selection	0: Power failure time deceleration-to-stop function disabled. 1: No undervoltage avoidance (If an undervoltage or power failure occurs, the motor decelerates to a stop.) 2: No undervoltage avoidance (If an undervoltage or power failure occurs, the motor decelerates to a stop. Motor re-accelerates if the power restores during the deceleration to stop.) 11: Undervoltage avoidance (If an undervoltage or power failure occurs, the motor decelerates to a stop.) 12: Undervoltage avoidance (If an undervoltage or power failure occurs, the motor decelerates to a stop. Motor re-accelerates if the power restores during the deceleration to stop.)	0	
10-34	P.274	Subtracted frequency at deceleration start	0 ~ 20.00Hz	3.00Hz	
10-35	P.275	Subtraction starting frequency Subtraction starting frequency	0 ~ 120.00Hz: When output frequency≥10-35(P.275), The motor decelerates from the "output frequency - 10-34(P.274)" ; When output frequency < 10-35(P.275), deceleration from output frequency 99999: The motor decelerates from the "output frequency - 10-34(P.274)"	50.00Hz	
10-36	P.276	Power-failure deceleration time1	0 ~ 360.00s/0 ~ 3600.0s	5.00s	
10-37	P.277	Power-failure deceleration time 2	0 ~ 360.00s/0 ~ 3600.0s : Set the Dec time starting at 10-38(P.278) And own ward. 99999:Set the Dec time to the setting frequency of 10-38(P.278).	99999	
10-38	P.278	Power failure 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.	0	
10-41	P.701	VF separated voltage digital	50Hz/60Hz system: 0 ~ 440.00V/0~220.00V	By 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 and avoidance operation selection	0: Regeneration avoidance function is invalid. 1: Regeneration avoidance function is always valid. 2: Regeneration avoidance function is valid only during a constant speed operation 11:Regeneration and avoidance function is effective in running (Manual mode, Acc/Dec speed of action is set by 10-49(P.271) and 10-50(P.272)) 12: Regeneration and avoidance function only in constant speed (Manual mode, Acc/Dec speed of action is set by 10-49(P.271) and 10-50(P.272))	0	
10-46	P.268	Regeneration and avoidance DC bus voltage level	155 ~ 400V: 220V types 310 ~ 800V: 440V types	760V	
10-47	P.269	DC bus voltage detection sensitivity at deceleration	0: Disables regeneration avoidance due 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 and avoidance frequency compensation value	0 ~ 10.00Hz: Set the limit value of frequency which rises at activation of regeneration avoidance function.	6.00Hz	
10-49	P.271	Regeneration avoidance voltage gain coefficient	0 ~ 400.0%/0 ~ 40.00%	100.0%	
10-50	P.272	Regeneration avoidance frequency gain coefficient	0 ~ 400.0%/0 ~ 40.00%	100.0%	
10-51	P.264	Over excitation deceleration	0: Over excitation deceleration is invalid. 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 at PM motor start	0~60.0s	0.0s	

Group	No.	Name	Setting Range	Default Value	User Setting
10-55	P.780	PLC Action choice	0:PLC Function invalid 1:PLC Function effective,PLC RUN signal from the external terminal input signal or 10-56 (P.781)。 2:PLC Function effective,PLC RUN signal from external terminal input signal	0	
10-56	P.781	PLC run	0: No effect 1: PLC RUN	0	
10-57	P.782	PLC Program erase	0: invalid 1: Erase PLC program, after the success of the erasure parameter value is 0	0	
10-58	P.783	PLC Monitor choosing component	0~326	0	
10-59	P.784	PLC Component monitoring value	Read	read	

11) Speed and Torque Control Parameter Group 11

Group	No.	Name	Setting Range	Default Value	User Setting
11-00	P.320	Speed control proportion coefficient 1	0 ~ 200.00	10.00	
11-01	P.321	Speed control integral time 1	0 ~ 20.000s	0.500s	
11-02	P.322	PI coefficient switching frequency 1	11-25 (P.414) ~ 11-05 (P.325) Hz	5.00Hz	
11-03	P.323	Speed control proportion coefficient 2	0 ~ 200.00	10.00	
11-04	P.324	Speed control integral time 2	0 ~ 20.000s	0.500s	
11-05	P.325	PI coefficient switching frequency 2	11-02 (P.322) ~ 650.00Hz	10.00Hz	
11-06	P.326	Current control proportion coefficient	0 ~ 20	0	
11-07	P.327	PM motor types	0 : SPM 1 : IPM	0	
11-08	P.328	PM initial motor position detection selection	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 estimate rotation speed filter	0 ~ 1000ms	2ms	
11-19	P.408	Forward motor torque limit	0 ~ 400.0%	200.0%	
11-20	P.409	Reverse regenerative torque limit	0 ~ 400.0%	200.0%	
11-21	P.410	Reverse motor torque limit	0 ~ 400.0%	200.0%	
11-22	P.411	Forward regenerative torque limit	0 ~ 400.0%	200.0%	
11-23	P.412	Zero velocity ratio	0 ~ 200.00	10.00	
11-24	P.413	Zero speed integration time	0 ~ 20.000s	0.500s	
11-25	P.414	Zero speed switching frequency	0~11-02 (P.322) Hz	5.00Hz	
11-26	P.415	IM motor estimate speed filter time	0-100.00ms	0	
11-30	P.371	The second motor speed control proportion coefficient 1	0 ~ 200.00 99999	10.00	
11-31	P.372	The second motor Speed control integral time1	0 ~ 20.000s 99999	0.500s	
11-32	P.373	The second motor PI coefficient switching frequency 1	0 ~ 11-35 (P.376)Hz 99999	5.00Hz	
11-33	P.374	The second motor speed control proportion coefficient 2	0 ~ 200.00 99999	10.00	
11-34	P.375	The second motor Speed control integral time 2	0 ~ 20.000s 99999	0.500s	
11-35	P.376	The second motor PI coefficient switching frequency 2	11-32(P.373)~650.00Hz 99999	10.00Hz	
11-36	P.377	The second motor current control proportion coefficient	0 ~ 20 99999	0	
11-37	P.378	The second PM motor types	0 : SPM 1 : IPM 99999	0	
11-38	P.379	The second PM initial motor position detection selection	0: Pull in. 1: High frequency pulse 99999	0	
11-39	P.380	The second PM motor acceleration id	0 ~ 200% 99999	80%	
11-40	P.381	The second PM motor constant speed id	0 ~ 200% 99999	0%	
11-41	P.382	The second PM motor estimated rotation speed filter time	0 ~ 1000ms 99999	2ms	
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	
11-48	P.387	Speed loop zero speed bandwidth	0 ~ 100.0Hz	5.0Hz	
11-49	P.388	Speed loop zero speed bandwidth	0 ~ 100.0Hz	5.0Hz	
11-50	P.389	Speed loop zero speed bandwidth	0 ~ 100.0Hz	5.0Hz	
11-51	P.390	Speed loop self settle select	0:invalid 1:valid	0	
11-52	P.368	Speed loop output low pass filter time constant	0~500.0ms	0	

12) Special Adjustment Parameter Group 13

Group	No.	Name	Setting Range	Default Value	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 inhibition factor	0 ~ 8	5	
13-03	P.286	High frequency vibration inhibition factor	XX00 ~ XX15 00XX ~15XX	509	
13-04	P.480	vibration suppression mode	0 : vibration suppression disable 1 : vibration suppression mode 1 2 : vibration suppression mode 2 3 : vibration suppression mode 3	1	
13-05	P.481	Vibration suppression factor	0~100.0	10.0	
13-06	P.482	Vibration suppression Kp	0~500	50	
13-07	P.483	Vibration suppression time	0~65000	1010	

13) User Parameter Group 15

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

14) Water Supply Parameter Group 16

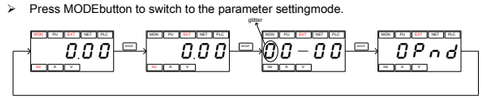
Group	No.	Name	Setting Range	Default Value	User Setting
16-00	P.1000	Water supply mode selection	0 : invalid 1 : Ordinary water supply mode 2 : Manual soft start mode	0	
16-01	P.1001	Pump 1 type selection	0 : Invalid pump 1 : Variable frequency pump 2 : Pump power frequency 3 : Dormant pump 4 : Sewage pump	0	
16-02	P.1002	Pump 2 type selection	Same as 16-01	0	
16-03	P.1003	Pump 3 type selection	Same as 16-01	0	
16-04	P.1004	Pump 4 type selection	Same as 16-01	0	
16-05	P.1005	Pump 5 type selection	Same as 16-01	0	
16-06	P.1006	Pump 6 type selection	Same as 16-01	0	
16-07	P.1007	Pump 7 type selection	Same as 16-01	0	
16-08	P.1008	Manual soft start switching frequency	0~120.00Hz	50.00Hz	
16-09	P.1009	Add pump pressure tolerance	0.0~100.0%	10.0%	
16-10	P.1010	Add pump to judge time	0~3600s	60s	
16-11	P.1011	Add frequency conversion pump switching frequency	0~120.00Hz	50.00Hz	
16-12	P.1012	Pump running frequency	0~120.00Hz	50.00Hz	
16-13	P.1013	Processing frequency pump frequency conversion pump deceleration time	0~360.00s/0~3600.0s	10.00s	
16-14	P.1014	Reduce pump pressure tolerance	0.0~100.0%	10.0%	
16-15	P.1015	Reduce pump judgment time	0~3600s	60s	
16-16	P.1016	Reduce pump operating frequency	0~120.00Hz	20.00Hz	
16-17	P.1017	Acceleration time of variable frequency pump when reducing pump	0~360.00s/0~3600.0s	10.00s	
16-18	P.1018	Contactor pull delay	0.1~10.0s	1.0s	
16-19	P.1019	Closing delay of contactor	0.1~10.0s	1.0s	
16-20	P.1020	Variable frequency pump wheel cycle	0.0~6000.0h	0.0h	
16-21	P.1021	Power frequency pump wheel cycle	0.0~6000.0h	0.0h	
16-22	P.1022	Water supply PID hibernation function selection	0 : Hibernation invalid, inverter running PID 1 : Hibernate	0	
16-23	P.1023	Water dormancy wake up pressure tolerance	0.0~100.0%	10.0%	
16-24	P.1024	Water wake duration	0 ~ 3600s	60s	
16-25	P.1025	Dormancy pump dormant period stop judge time	0~3600s	500s	
16-26	P.1026	Hydraulic overpressure protection collimation	0~200.0%	150.0%	
16-27	P.1027	Hydraulic overpressure judgment time	0~3600s	500s	
16-28	P.1028	Hydraulic underpressure protection collimation	0~100.0%	0.0%	
16-29	P.1029	Hydraulic underpressure judgment time	0~3600s	500s	

15) Switching Parameter Mode

- SF3 series classify parameters according to functions, and the factory default value is displayed as “Group Mode” ;
- If users prefer to display as the mode of “P.xxx”, please set the paremeter00-25 as “1”, and the parameters will be displayed as “Traditional P Mode”.

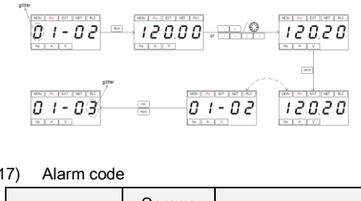
16) Parameter Setting Flow

- Press MODEbutton to switch to the parameter settingmode.



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

- Operate according to the following flow.



17) Alarm code

Code	Screen display	Cause	Troubleshooting
ERROR	Error	1.Low input voltage 2.The reset function “RES” is on 3.Bad connection between the control panel and main body 4.Internal circuit malfunction 5. CPU error 6.Abnormal load insulation to ground	1.Use a better power supply 2.Shut off “RES” 3.Ensure the control panel is connected firmly 4.Replace the inverter. 5.Restart the inverter 6.Check the insulation of the motor cable and the three-phase winding of the motor
OC0 Over-current when starting	OC0	The output current exceeds twice the rated current of the inverter or the load is short-circuited	The inverter may be affected by external electromagnetic noise. Please improve the wiring. Power off and power on again. If this alarm occurs repeatedly, please send it to the factory for repair. (Note 1)
OC1 Over-current during acceleration	OC1		1.When there is a sudden speed change, extend the acceleration or deceleration time. 2.Avoid sudden increase of load. 3.Check Terminals U/T1, V/T2 and W/T3 for short circuit.
OC2 Over-current when speed is constant	OC2		
OC3 Over-current during deceleration	OC3		
OV0 Over-voltage when rest	OuO	The voltage between terminals (+ / P)-(-/ N) is too high or the motor is leaking to ground; External power lines have large electrical equipment start and stop affecting grid surges	Check if the power supply is functioning properly.
OV1 Over-voltage during acceleration	Ou1		1.When there is a sudden speed change, extend the acceleration or deceleration time. 2.Check the brake resistor between Terminals +/P and PR for loose connection. 3.If the braking resistor is connected, check whether the setting values of 06-05 (P.30) and 06-06 (P.70) are correct. 4.Check motor insulation to ground 5.Improve grid quality (recommended input reactor) (Note 1)
OV2 Over-voltage at constant speed	Ou2		
OV3 Over-voltage during deceleration	Ou3		

THT IGBT module Overheat	THT	1. IGBT module accumulated heat relay action (overload warning) 2.01-03 (P.3) The setting does not match the rated frequency of the motor. 3. Insufficient input power supply voltage of the inverter reduces output capacity 4.The three-phase input connection of the motor is incorrect	1.Avoid overloading the inverter for a long time 2.Recheck 01-03 (P.3) and motor rated frequency setting 3.Check grid voltage 4. Check whether the motor connection (Y / △) is consistent with the motor nameplate 5. Check if the carrier frequency 00-11 (P.72) is set too high (Note 1)
THN Motor Overheat	THN	Electronic thermal relay action	1. Check whether the setting value of 06-00 (P.9) is reasonable and correct (based on the rated current of the external motor) 2. Reduce the load
FAN Cooling fan abnormal	FAN	Cooling fan abnormal	1. The fan is damaged, please replace it with a new one 2. Foreign object is blocking the fan, please remove the foreign object 3. Fan wiring is broken / dropped, please replace it with a new one
OHT External Overheat	OHT	External thermal relay actuate	1.Check if the 06-00 (P. 9) value matches the motor (check motor nameplate) 2.Reduce the load 3.Check whether the external connection signal is disconnected or disconnected
OPT RS-485 connecter error	OPT	1. Communication error, exceeding the number of communication error retries 2. External noise interference 3. The communication control program logic is unreasonable 4. Communication is interrupted, exceeding the communication interval allowable time	Correctly set communication related parameters It is recommended to use twisted-pair shielded communication lines and the shielding layer is properly grounded. Check communication procedures
PUE PU connecter error	PUE		
CbE Expansion connecter error	CbE		
EEP Memory error	EEP	ROM malfunction	When this alarm occurs frequently, please send it to the factory for maintenance Avoid frequent communication to modify parameters and save target frequency to EEPROM. Refer to 07-11 (P.34) and target frequency communication address H1002 to prevent premature damage.
PID PID error	PID	1.The capacity of the inverter or motor is not enough 2.PID target value or feedback value doesn't make sense 3.Peripheral devices malfunction 4. The feedback signal is not connected or disconnected during PID control	1.Use an inverter or a motor with bigger capacity. 2.Check the feedback gain value. Reset the target value according to the feedback. 3.Check all peripheral feedback devices of the system (sensors, potentiometer) and wirings.
CPU CPU error	CPU	Strong electromagnetic interference	Reduce peripheral interference.
OLS Stall prevention and protection	OLS	Motor overload	1.Reduce the load 2.Increase 06-01(P.22) value.
SCP Short circuit/ over-current	SCP	1. Short circuit on the output side 2.The inverter incorrectly reports SCP warning	1. Check whether the inverter output is short-circuited (such as motor wiring) 2. The inverter may be interfered by external electromagnetic noise. Please improve the wiring. (Note 1)
NTC Module overheat	NTC	Inverter-side IGBT module temperature is too high	1.Lower the surrounding temperature and increase venting 2. Check if the cooling fan is functioning properly 3. Check if the carrier frequency 00-11 (P.72) is set too high
NTC2 Module 2 overheat	NTC2		
NTC3 Module 3 overheat	NTC3		
NTC4 Module 4 overheat	NTC4		
NTC5 Module 5 overheat	NTC5		
NTC6 Module 6 overheat	NTC6		
OL2 Overload	OL2	1. Motor overload 2. The value on 06-08 (P.155) and 06-09(P.156) doesn't make sense.	1.Reduce the load 2.Set 06-08 (P.155) and 06-09(P.156) properly
BE Brake transistor error (Relay error)	bE	Brake transistor error (Relay error)	Send the unit back to the dealer or the manufacturer to repair
IPF Input power error	IPF	Input power error(Missing phase)	Check if the power supply is normal
CPR CPU error	CPr	CPU error	1.Check the wiring 2.Check the parameter setup 3.Reduce noise interference
AEr Terminal 4-5/3-5 error	AEr	The terminal 4-5-3-5 analog output disconnect	Check parameter 02-24 (P.184),02-33(P.545)
PTC Motor overheat	PTC	Motor overheat	1.reduce the load 2.set parameter 06-16(P.534)
BEB Broken wire	bEb	Broken wire	Check if the feedback wire is broken
rAE relay abnormal operation	rAE	The main circuit relay is abnormal	Please send to the factory for maintenance
GF Output short-circuit to ground	GF	Shortage between output and ground	Check the motor wiring
LF Output phase loss	LF	Output error	Check the UVW terminal on the inverter
HDC Hardware self-detect circuit error	HdC	Hardware self-detect circuit error	Send the unit back to the dealer or the manufacturer to repair
ADE Three-phase current sampling error	AdE	Three-phase current sampling circuit error	Send the unit back to the dealer or the manufacturer to repair
EbE1 Expansion card slot1 error	EbE1	The first result of auto detection is not the same as the second.	Check the connection of the expansion card
dPF Main circuit power error	dPF	Main circuit powe rerror	Send the unit back to the dealer or the manufacturer to repair

Note 1: Do not turn on the power repeatedly before removing the cause of the alarm.

18) Abnormal situation and countermeasures

Abnormal situation	Check points	
Motor doesn't move	Main circuit	• Is the voltage between terminals R/L1-S/L2-T/L3 normal? • Is the POWER light on? • Is the wiring between the inverter and the motor correct?
	Load	• Is the load too heavy? • Is the rotor of the motor locked?
	Parameter setting	• Is the start frequency (01-11 (P.13)) set too high? • Is the operating mode (00-16 (P.79)) correct? • Is the upper limit frequency (01-00 (P.1)) set to zero? • Is reverse prevention (00-15 (P.78)) limited? • Is the signal bias and gain (02-12~02-15, 02-25~02-28/P.192~P.199) correct? • Is the avoidance frequency (01-16~01-21 / P.91~P.96) correct?
	Control circuit	• Is there any MRS function "on"? Related parameters 03-00~03-09(P.80~P.84, P.86, P.126~P.128, p.550) • Is there a RES function "on"? Related parameters 03-00~03-09(P.80~P.84, P.86, P.126~P.128, p.550) • Is the external thermal relay tripping? • Is there an alarm (ALARM light is on) and has not been reset? • Is the voltage/current signal connected correctly? • Are the STF and STR functions correct? Related parameters 03-00~03-09(P.80~P.84, P.86, P.126~P.128, p.550) • Is the control circuit wiring disconnected or poorly connected?
Motor rotates backwards	• Is the wiring phase sequence of the motor terminal (U/T1)/(V/T2)/(W/T3) correct? • Is the wiring of the start terminals STF and STR correct?	
Motor speed doesn't rise	• Is the load too heavy? • Is the stall prevention level (06-01 (P.22)) correct? • Is the torque compensation (01-10 (P.0)) too high? • Is it limited by the upper limit frequency (01-00 (P.1))?	
Accelerating and decelerating not smooth	• Is the acceleration/deceleration time (01-06 (P.7), 01-07 (P.8)) correct? • Is the acceleration/deceleration curve selection (01-05 (P.29)) correct? • Is the voltage/current signal floating due to noise?	
Motor current too large	• Is the load too large? • Does the drive capacity match the motor capacity? • Is the torque compensation (01-10 (P.0)) too high?	
The speed fluxuate when run	• Is the voltage/current signal floating due to noise? • Does the motor load change? • Is the main circuit wiring too long?	

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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