





1 Parameter Table

1.1 Introduction

Groups F and A include standard function parameters. Group U includes the monitoring function parameters and extension card communication parameters.

The parameter description tables in this chapter use the following symbols. The symbols in the parameter table are described as follows:

Symbol	Meaning
	It is possible to modify the parameter with the drive in the stop or in the Run status.
	It is not possible to modify the parameter with the drive in the Run status.
	The parameter is the actual measured value and cannot be modified.
	The parameter is a factory parameter and can be set only by the manufacturer.

1.2 Standard Parameters

Para. No.	Para. Name	Setting Range	Default	Property
Group P0: Standard Parameters				
P0-00	G/P type display	1 : G type 2: P type	1	●
P0-01	Motor 1 control mode	0: SVC control 1: FVC control 2: V/F control	0	★
P0-02	Command selection source	0: Operating panel (keypad & display) (LED off) 1: Terminal I/O control (LED on) 2: Serial Communication. (LED flashing)	0	☆
P0-03	Main frequency reference setting channel selection	0: Digital setting (non-retentive at power down) 1: Digital setting (retentive at power down) 2: AI1 3: AI2 4: AI3 5: Pulse reference 6: Multi-reference 7: Simple PLC 8: PID reference 9: Serial Communication	0	★
P0-04	Auxiliary frequency reference setting channel selection	0: Digital setting (non-retentive at power down) 1: Digital setting (retentive at power down) 2: AI1 3: AI2 4: AI3 5: Pulse reference 6: Multi-reference 7: Simple PLC 8: PID reference 9: Serial Communication.	0	★

Para. No.	Para. Name	Setting Range	Default	Property
P0-05	Base value of range of auxiliary frequency reference for Main and auxiliary calculation	0: Relative to maximum frequency 1: Relative to main frequency reference	0	☆
P0-06	Range of auxiliary frequency reference for main and auxiliary calculation	0% to 150%	100%	☆
P0-07	Final Frequency reference setting selection	00 to 34	00	☆
P0-08	Preset frequency	0.00 to max. frequency (F0-10)	50.00 Hz	☆
P0-09	Running direction	0: Run in default direction 1: Run in direction reverse to default direction	0	☆
P0-10	Max. frequency	50.00 to 500.00 Hz	50.00 Hz	★
P0-11	Setting channel of frequency upper limit	0: Set by F0-12 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication reference	0	★
P0-12	Frequency reference upper limit	F0-14 to F0-10	50.00 Hz	☆
P0-13	Frequency reference upper limit offset	0.00 Hz to max. frequency (F0-10)	0.00 Hz	☆
P0-14	Frequency reference lower limit	0.00 Hz to frequency upper limit (F0-12)	0.00 Hz	☆
P0-15	Carrier frequency	2.0 to 8.0 kHz	Model dependent	☆
P0-16	Carrier frequency adjusted with temperature	0: Disabled 1: Enabled	1	☆
P0-17	Acceleration time 1	0.00s to 650.00s (F0-19 = 2) 0.0s to 6500.0s (F0-19 = 1) 0s to 65000s (F0-19 = 0)	Model dependent	☆
P0-18	Deceleration time 1	0.00s to 650.00s (F0-19 = 2) 0.0s to 6500.0s (F0-19 = 1) 0s to 65000s (F0-19 = 0)	Model dependent	☆
P0-19	Acceleration/Deceleration time unit	0: 1s 1: 0.1s 2: 0.01s	1	★
P0-21	Frequency offset of Auxiliary frequency setting channel for main and auxiliary calculation	0.00 Hz to max. frequency (F0-10)	0.00 Hz	☆

Para. No.	Para. Name	Setting Range	Default	Property
P0-22	Frequency reference resolution	2: 0.01Hz	2	★
P0-23	Retentive of digital setting frequency upon stop	0: Not retentive 1: Retentive	0	☆
P0-24	Motor parameter group selection	0: Motor parameter group 1 1: Motor parameter group 2	0	★
P0-25	Acceleration/Deceleration time base frequency	0: Maximum frequency (F0-10) 1: Frequency reference 2: 100 Hz	0	★
P0-26	Base frequency for UP/DOWN modification during running	0: Running frequency 1: Frequency Reference	0	★
P0-27	Command source + frequency source	000 to 999	000	☆
P0-28	Serial port comms. protocol	0: Modbus protocol 1: PROFIBUS-DP protocol or CANopen protocol	0	★
Group P1: Motor 1 Parameters				
P1-00	Motor type selection	2: Permanent magnet synchronous motor	2	★
P1-01	Rated motor power	0.1 to 1000.0 kW	Model dependent	★
P1-02	Rated motor voltage	1 to 2000 V	Model dependent	★
P1-03	Rated motor current	0.01 to 655.35 A (AC drive power \leq 55 kW) 0.1 to 6553.5 A (AC drive power $>$ 55 kW)	Model dependent	★
P1-04	Rated motor frequency	0.01 Hz to max. frequency	Model dependent	★
P1-05	Rated motor speed	1 to 65535 rpm	Model dependent	★
P1-16	Stator resistance	0.001 to 65.535 Ω (AC drive power \leq 55 kW) 0.0001 to 6.5535 Ω (AC drive power $>$ 55 kW)	Auto-tuning dependent	★
P1-17	d-axis inductance of PMSM	0.01 to 655.35 mH (AC drive power \leq 55 kW) 0.001 to 65.535 mH (AC drive power $>$ 55 kW)	Auto-tuning dependent	★
P1-18	q-axis inductance of PMSM	0.01 to 655.35 mH (AC drive power \leq 55 kW) 0.001 to 65.535 mH (AC drive power $>$ 55 kW)	Auto-tuning dependent	★
P1-20	Back EMF of PMSM	0.0 to 6553.5 V	Auto-tuning dependent	★

Para. No.	Para. Name	Setting Range	Default	Property
P1-27	Encoder pulses per revolution	1 to 65535	1024	★
P1-28	Encoder type	0: ABZ incremental encoder 1: UVW incremental encoder 2: Resolver	0	★
P1-30	A/B phase sequence of ABZ incremental encoder	0: Forward 1: Reserve	0	★
P1-31	Encoder installation angle	0 to 359.9°	0.0°	★
P1-32	UVW encoder UVW phase sequence	0: Forward 1: Reverse	0	★
P1-34	Number of pole pairs of resolver	1 to 65535	1	★
P1-36	Encoder wire-break fault detection time	0.0s: No detection 0.1s to 10.0s	0.0s	★
P1-37	Motor auto-tuning method selection	00: No auto-tuning 11: PMSM with-load auto-tuning 12: PMSM no-load auto-tuning	00	★
P2-00	Speed loop proportional gain 1	1 to 100	20	☆
Group P2: Vector Control Parameters				
P2-01	Speed loop integral time 1	0.01s to 10.00s	0.50s	☆
P2-02	Switchover frequency 1	0.00 to F2-05	5.00 Hz	☆
P2-03	Speed loop proportional gain 2	1 to 100	20	☆
P2-04	Speed loop integral time 2	0.01s to 10.00s	1.00s	☆
P2-05	Switchover frequency 2	F2-02 to max. frequency	10.00 Hz	☆
P2-09	Torque limit source in speed control	0: F2-10 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Serial Communication. 6: Min. (AI1, AI2) 7: Max. (AI1, AI2)	0	☆
P2-10	Digital setting of torque limit in speed control	0.0% to 200.0%	150.0%	☆
P2-11	Torque limit source in speed control (in regenerative state)	0: F2-10 1: AI 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication reference 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) 8: F2-12	0	☆

Para. No.	Para. Name	Setting Range	Default	Property
P2-12	Digital setting of torque limit in speed control (in regenerative state)	0.0% to 200.0%	150.0%	☆
P2-13	Excitation adjustment proportional gain	0 to 60000	2000	☆
P2-14	Excitation adjustment integral gain	0 to 60000	1300	☆
P2-15	Torque adjustment proportional gain	0 to 60000	2000	☆
P2-16	Torque adjustment integral gain	0 to 60000	1300	☆
P2-18	Flux weakening mode of PMSM	0, 1, 2, 3	1	☆
P2-19	Flux weakening gain of PMSM	1 to 50	5	☆
P2-22	Regenerative power limit selection	0: Disabled 1: Enabled in the whole process	0	☆
P2-23	Margin of output voltage upper limit of PMSM	0% to 50%	5%	☆
P2-24	Detection current of initial position angle of PMSM	50% to 180%	80%	☆
P2-25	Detection of initial position angle of PMSM	0, 1, 2	0	☆
P2-27	Salient-pole rate adjustment gain of PMSM	50 to 500	100	☆
P2-28	Max. torque/current ratio control	0, 1	0	☆
P2-32	Signal Z correction	0, 1	1	☆
P2-36	Low-speed excitation current	0% to 80%	30%	☆
P2-37	Low-speed carrier frequency	0.8 K to F0-15	1.5 K	☆
P2-38	Low-frequency braking mode in SVC	0, 1	0	☆
P2-39	Low-frequency braking applied frequency in SVC	0 to 10.00 Hz	2.00 Hz	☆
P2-40	Low-frequency braking frequency change step	0.0005 to 1.0000 Hz	0.0010 Hz	☆
P2-41	Low-frequency braking current in SVC	0% to 80%	50%	☆
P2-42	Margin of output voltage upper limit of PMSM	0, 1	0	☆

Para. No.	Para. Name	Setting Range	Default	Property
P2-43	Detection current of initial position angle of PMSM	0, 1	0	☆
P2-44	Detection of initial position angle of PMSM	0.00 to F2-02	0.30 Hz	☆
P2-45	Speed loop proportional gain of zero servo	1 to 100	10	☆
P2-46	Speed loop integral time of zero servo	0.01s to 10.00s	0.50s	☆
P2-47	Reverse run prevented at stop	0, 1	0	☆
P2-49	Without auto-tuning mode	0, 1, 2	0	☆
P2-50	Online back EMF calculation	0, 1	0	☆
P2-51	Low-speed carrier frequency adjustment range	0% to 100%	50%	☆
Group P3: V/F Control Parameters				
P3-00	V/F curve setting	0: Linear V/F 1: Multi-point V/F 2: Square V/F 3: 1.2-power V/F 4: 1.4-power V/F 6: 1.6-power V/F 8: 1.8-power V/F 9: Reserved 10: V/F complete separation 11: V/F half separation	0	★
P3-01	Torque boost	0.0%: fixed boost 0.1% to 30%	Model dependent	☆
P3-02	Cut-off frequency of torque boost	0.00 Hz to max. frequency	50.00 Hz	★
P3-03	Multi-point V/F frequency 1	0.00 Hz to F3-05	0.00 Hz	★
P3-04	Multi-point V/F voltage 1	0.0% to 100.0%	0.0%	★
P3-05	Multi-point V/F frequency 2	F3-03 to F3-07	0.00 Hz	★
P3-06	Multi-point V/F voltage 2	0.0% to 100.0%	0.0%	★
P3-07	Multi-point V/F frequency 3	F3-05 to rated motor frequency (F1-04)	0.00 Hz	★
P3-08	Multi-point V/F voltage 3	0.0% to 100.0%	0.0%	★
P3-10	V/F over-excitation gain	0 to 200	64	☆
P3-11	V/F oscillation suppression gain	0 to 100	40	☆

Para. No.	Para. Name	Setting Range	Default	Property
P3-13	Voltage source for V/F separation	0: Set by F3-14 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID reference 8: Serial comms. 100.0% corresponds to rated motor voltage (F1-02, A2-02).	0	☆
P3-14	Digital setting of voltage for V/F separation	0 V to rated motor voltage	0 V	☆
P3-15	Voltage rise time of V/F separation	0.0s to 1000.0s	0.0s	☆
P3-16	Voltage decline time of V/F separation	0.0s to 1000.0s	0.0s	☆
P3-17	Stop mode selection for V/F separation	0: Frequency and voltage declining to 0 independently 1: Frequency declining after voltage declines to 0	0	☆
P3-18	Current limit level	50% to 200%	150%	★
P3-19	Current limit selection	0: Disabled 1: Enabled	1	★
P3-20	Current limit gain	0 to 100	20	☆
P3-21	Compensation factor of speed multiplying current limit level	50% to 200%	50%	★
P3-22	Voltage limit	650 to 800 V	770 V	★
P3-23	Voltage limit selection	0: Disabled 1: Enabled	1	★
P3-24	Frequency gain for voltage limit	0 to 100	30	☆
P3-25	Voltage gain for voltage limit	0 to 100	30	☆
P3-26	Frequency rise threshold during voltage limit	0 to 50 Hz	5 Hz	★

Para. No.	Para. Name	Setting Range	Default	Property
Group F4: Input Terminals				
P4-00	DI1 function selection	0: No function 1: Forward run (FWD) 2: Reverser run (REV) 3: Three-wire control 4: Forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Coast to stop 9: Fault reset (RESET) 10: RUN disabled 11: External fault NO input 12: Multi-reference terminal 1 13: Multi-reference terminal 2 14: Multi-reference terminal 3 15: Multi-reference terminal 4 16: Terminal 1 for acceleration deceleration time selection 17: Terminal 2 for acceleration deceleration time selection 18: Frequency reference setting channel switchover 19: UP and DOWN setting clear (terminal, operation panel) 20: Command source switchover 1 21: Acceleration/Deceleration prohibited 22: PID disabled 23: PLC state reset 24: Wobble disabled 25: Counter input 26: Counter reset 27: Length signal pulses count 28: Length reset 29: Torque control prohibited 30: Pulse input as frequency reference (valid only for DI5) 31: Reserved 32: Immediate DC injection braking 33: External fault NC input 34: Frequency modification enabled 35: PID operation direction reverse 36: External stop 1	0	★

Para. No.	Para. Name	Setting Range	Default	Property
P4-01	DI2 function selection	44: User-defined fault 1	4	★
P4-02	DI3 function selection	45: User-defined fault 2	9	★
P4-03	DI4 function selection	46: Speed control/ Torque control	12	★
P4-04	DI5 function selection	47: Emergency stop (ES)	13	★
P4-05	DI6 function selection	48: External stop 2	0	★
P4-06	DI7 function selection	49: Deceleration DC injection braking	0	★
P4-07	DI8 function selection	50: Clear running time this time	0	★
P4-08	DI9 function selection	51: Two-wire control/ Three-wire control	0	★
P4-09	DI10 function selection	52: Reverse running prohibited	0	★
P4-10	DI filter time	53 to 59: Reserved	0.010s	☆
P4-11	Terminal I/O control mode	0: Two-wire control mode 1 1: Two-wire control mode 2 2: Three-wire control mode 1 3: Three-wire control mode 2	0	★
P4-12	Terminal UP/DOWN rate	0.001 to 65.535 Hz/s	1.000 Hz/s	☆
P4-13	AI curve 1 min. input	0.00 V to F4-15	0.00 V	☆
P4-14	Corresponding percentage of AI curve 1 min. input	-100.00% to 100.0%	0.0%	☆
P4-15	AI curve 1 max. input	F4-13 to 10.00 V	10.00 V	☆
P4-16	Corresponding percentage of AI curve 1 max. input	-100.00% to 100.0%	100.0%	☆
P4-17	AI1 filter time	0.00s to 10.00s	0.10s	☆
P4-18	AI curve 2 min. input	0.00 V to F4-20	0.00 V	☆
P4-19	Corresponding percentage of AI curve 2 min. input	-100.00% to 100.0%	0.0%	☆
P4-20	AI curve 2 max. input	F4-18 to 10.00 V	10.00 V	☆
P4-21	Corresponding percentage of AI curve 2 max. input	-100.00% to 100.0%	100.0%	☆
P4-22	AI2 filter time	0.00s to 10.00s	0.10s	☆
P4-23	AI3 curve min. input	-10.00 V to F4-25	0.00 V	☆
P4-24	Corresponding percentage of AI curve 3 min. input	-100.00% to 100.0%	0.0%	☆
P4-25	AI curve 3 max. input	F4-23 to 10.00 V	10.00 V	☆
P4-26	Corresponding percentage of AI curve 3 max. input	-100.00% to 100.0%	100.0%	☆
P4-27	AI3 filter time	0.00s to 10.00s	0.10s	☆
P4-28	Pulse min. input	0.00 kHz to F4-30	0.00 kHz	☆
P4-29	Corresponding percentage of pulse min. input	-100.00% to 100.0%	0.0%	☆
P4-30	Pulse max. input	F4-28 to 100.00 kHz	50.00 kHz	☆

Para. No.	Para. Name	Setting Range	Default	Property
P4-31	Corresponding percentage of pulse max. input	-100.00% to 100.0%	100.0%	☆
P4-32	Pulse filter time	0.00s to 10.00s	0.10s	☆
P4-33	AI curve selection	111 to 555	321	☆
P4-34	Setting selection when AI less than min. input	000 to 111	000	☆
P4-35	DI1 delay	0.0s to 3600.0s	0.0s	☆
P4-36	DI2 delay	0.0s to 3600.0s	0.0s	★
P4-37	DI3 delay	0.0s to 3600.0s	0.0s	★
P4-38	DI active mode selection 1	00000 to 11111	00000	★
P4-39	DI active mode selection 2	00000 to 11111	00000	★
Group P5: Output Terminals				
P5-00	FM terminal output mode	0: Pulse output (FMP) 1: Digital output (FMR)	0	☆
P5-01	FMR function selection	0: No output 1: AC drive running 2: Fault output 3: Frequency level detection 1 output 4: Frequency reached 5: Zero-speed running (no output at stop) 6: Motor overload pending 7: AC drive overload pending 8: Set count value reached 9: Designated count value reached	0	☆
P5-02	Relay (T/A-T/B-T/C) function selection	10: Length reached 11: PLC cycle completed 12: Accumulative running time reached 13: Frequency limited 14: Torque limited 15: Ready for RUN 16: AI1 > AI2 17: Frequency upper limit reached	0	☆
P5-03	Extension card relay (P/A-P/ B-P/C) function selection	18: Frequency lower limit reached (no output at stop) 19: Undervoltage 20: Communication setting 21, 22: Reserved 23: Zero-speed running 2 (having output at stop) 24: Accumulative power-on time reached 25: Frequency level detection 2 26: Frequency 1 reached	0	☆

Para. No.	Para. Name	Setting Range	Default	Property
P5-04	D01 function selection	27: Frequency 2 reached 28: Current 1 reached 29: Current 2 reached 30: Timing reached 31: AI1 input exceeding limit 32: Load lost 33: Reverse running 34: Zero current 35: IGBT temperature reached 36: Output current exceeding limit	0	☆
P5-05	Extension card D02 function selection	37: Frequency lower limit reached (having output at stop) 38: Alarm output 39: Motor overheat pending 40: Current running time reached 41: Fault output	0	☆
P5-06	FMP function selection	0: Running frequency 1: Frequency reference 2: Output current 3: Output torque (absolute value) 4: Output power 5: Output voltage	0	☆
P5-07	A01 function selection	6: Pulse input 7: AI1 8: AI2 9: AI3 10: Length 11: Counting value	0	☆
P5-08	A02 function selection	12: Communication reference 13: Motor speed 14: Output current 15: Output voltage 16: Output torque of the motor (actual value, a percentage of the rated motor torque)	0	☆
P5-09	Max. FMP output frequency	0.01 to 100.00 kHz	50.00 kHz	☆
P5-10	A01 zero offset coefficient	-100.0% to 100.0%	0.0%	☆
P5-11	A01 gain	-10.00 to 10.00	1.00	☆
P5-12	A02 zero offset coefficient	-100.0% to 100.0%	0.00%	☆
P5-13	A02 gain	-10.00 to 10.00	1.00	☆
P5-17	FMR output delay	0.0s to 3600.0s	0.0s	☆
P5-18	Relay 1 output delay	0.0s to 3600.0s	0.0s	☆
P5-19	Relay 2 output delay	0.0s to 3600.0s	0.0s	☆
P5-20	D01 output delay	0.0s to 3600.0s	0.0s	☆
P5-21	D02 output delay	0.0s to 3600.0s	0.0s	☆
P5-22	D0 active mode selection	00000 to 11111	00000	☆

Para. No.	Para. Name	Setting Range	Default	Property
Group P6: Start/Stop Control				
P6-00	Start mode	0: Direct start 1: Catching a spinning motor 2: Pre-excited start 3: SVC quick start	0	☆
P6-03	Start frequency	0.00 to 10.00 Hz	0.00 Hz	☆
P6-04	Start frequency holding time	0.0s to 100.0s	0.0s	★
6-07	Acceleration/Deceleration mode	0: Linear acceleration deceleration 1: Static S-curve acceleration deceleration 2: Dynamic S-curve acceleration deceleration	0	★
P6-08	Time proportion of S-curve start segment	0.0% to (100.0% - F6-09)	30.0%	★
P6-09	Time proportion of S-curve end segment	0.0% to (100.0% - F6-08)	30.0%	★
P6-10	Stop mode	0: Decelerate to stop 1: Coast to stop	0	☆
P6-15	Braking use ratio	0% to 100%	100%	☆
Group P7: Keypad Operation and LED Display				
P7-00	LED default display check	0, 1	0	☆
P7-01	MF.K key function selection	0 to 4	0	★
P7-02	STOP/RESET key function	0: Available for just operation panel control 1: Available always	1	☆
P7-03	LED display running parameters 1	0000 to FFFF	1F	☆
P7-04	LED display running parameters 2	0000 to FFFF	0	☆
P7-05	LED display stop parameters	0000 to FFFF	33	☆
P7-06	Load speed display coefficient	0.0001 to 6.5000	1.0000	☆
P7-07	Heatsink temperature of IGBT	-20° C to 120° C	-	●
P7-08	Product series	-	-	●
P7-09	Accumulative running time	0 to 65535 h	-	●
P7-10	Performance software version	-	-	●
P7-11	Function software version	-	-	●
P7-12	Number of decimal places for load speed display	10 to 23	21	☆

Para. No.	Para. Name	Setting Range	Default	Property
P7-13	Accumulative power-on time	0 to 65535 h	-	●
P7-14	Accumulative power consumption	0 to 65535 kWh	-	●
Group P8: Auxiliary Functions				
P8-00	Jog frequency reference	0.00 Hz to max. frequency	2.00 Hz	☆
P8-01	Jog acceleration time	0.0s to 6500.0s	20.0s	☆
P8-02	Jog deceleration time	0.0s to 6500.0s	20.0s	☆
P8-03	Acceleration time 2	0.0s to 6500.0s	Model dependent	☆
P8-04	Deceleration time 2	0.0s to 6500.0s	Model dependent	☆
P8-05	Acceleration time 3	0.0s to 6500.0s	Model dependent	☆
P8-06	Deceleration time 3	0.0s to 6500.0s	Model dependent	☆
P8-07	Acceleration time 4	0.0s to 6500.0s	0.0s	☆
P8-08	Deceleration time 4	0.0s to 6500.0s	0.0s	☆
P8-09	Frequency jump 1	0.00 Hz to max. frequency	0.00 Hz	☆
P8-10	Frequency jump 2	0.00 Hz to max. frequency	0.00 Hz	☆
P8-11	Frequency jump band	0.00 Hz to max. frequency	0.00 Hz	☆
P8-12	Forward/Reverse run switchover dead-zone time	0.0s to 3000.0s	0.0s	☆
P8-13	Reverse RUN selection	0: Disabled 1: Enabled	0	☆
P8-14	Running mode when frequency reference lower than frequency lower limit	0: Running at lower limit speed 1: Stop 2: Run at Zero speed	0	☆
P8-15	Droop rate	0.00% to 100.00%	0.00%	☆
P8-16	Accumulative power-on time threshold	0 to 65000 h	0 h	☆
P8-17	Accumulative running time threshold	0 to 65000 h	0 h	☆
P8-18	Startup protection selection	0: Disabled 1: Enabled	0	☆
P8-19	Frequency detection value 1	0.00 Hz to max. frequency	50.00 Hz	☆
P8-20	Frequency detection hysteresis 1	0.0% to 100.0%	5.0%	☆
P8-21	Detection width of target frequency reached	0.0% to 100.0%	0.0%	☆
P8-22	Jump frequency function	0: Disabled 1: Enabled	0	☆
P8-25	Switchover frequency of acceleration time 1 and acceleration time 2	0.00 Hz to max. frequency	0.00 Hz	☆

Para. No.	Para. Name	Setting Range	Default	Property
P8-25	Switchover frequency of acceleration time 1 and acceleration time 2	0.00 Hz to max. frequency	0.00 Hz	☆
P8-26	Switchover frequency of deceleration time 1 and deceleration time 2	0.00 Hz to max. frequency	0.00 Hz	☆
P8-27	Set highest priority to terminal JOG function	0: Disabled 1: Enabled	0	☆
P8-28	Frequency detection value 2	0.00 Hz to max. frequency	50.00 Hz	☆
P8-29	Frequency detection hysteresis 2	0.0% to 100.0%	5.0%	☆
P8-30	Detection of frequency 1	0.00 Hz to max. frequency	50.00 Hz	☆
P8-31	Detection width of frequency 1	0.0% to 100.0% (max. frequency)	0.0%	☆
P8-32	Detection of frequency 2	0.00 Hz to max. frequency	50.00 Hz	☆
P8-33	Detection width of frequency 2	0.0% to 100.0% (max. frequency)	0.0%	☆
P8-34	Zero current detection level	0.0% to 300.0% (rated motor current)	5.0%	☆
P8-35	Zero current detection delay	0.01s to 600.00s	0.10s	☆
P8-36	Output overcurrent threshold	0.0% (no detection) 0.1% to 300.0% (rated motor current)	200.0%	☆
P8-37	Output overcurrent detection delay	0.00s to 600.00s	0.00s	☆
P8-38	Detection level of current 1	0.0% to 300.0% (rated motor current)	100.0%	☆
P8-39	Detection width of current 1	0.0% to 300.0% (rated motor current)	0.0%	☆
P8-40	Detection level of current 2	0.0% to 300.0% (rated motor current)	100.0%	☆
P8-41	Detection width of current 2	0.0% to 300.0% (rated motor current)	0.0%	☆
P8-42	Timing function	0: Disabled 1: Enabled	0	★
P8-43	Running time setting channel	0: Set by F8-44 1: AI1 2: AI2 3: AI3	0	★
P8-44	Running time	0.0 to 6500.0 min	0.0 min	★
P8-45	AI1 input voltage lower limit	0.00 V to F8-46	3.10 V	☆
P8-46	AI1 input voltage upper limit	F8-45 to 10.00 V	6.80 V	☆

Para. No.	Para. Name	Setting Range	Default	Property
P8-47	IGBT temperature threshold	0° C to 100° C	75° C	☆
P8-48	Cooling fan working mode	0: Working during drive running 1: Working continuously	0	☆
P8-49	Wakeup frequency	F8-51 to max. frequency (F0-10)	0.00 Hz	☆
P8-50	Wakeup delay time	0.0s to 6500.0s	0.0s	☆
P8-51	Hibernating frequency	0.00 Hz to wakeup frequency (F8-49)	0.00 Hz	☆
P8-52	Hibernating delay time	0.0s to 6500.0s	0.0s	☆
P8-53	Running time threshold this time	0.0 to 6500.0 min	0.0 min	☆
P8-54	Output power correction coefficient	0.0% to 200.0%	100.0%	☆
P8-55	Current correction coefficient	0% to 200%	Model dependent	☆
Group P9: Fault and Protection				
P9-00	Motor overload protection	0: Disabled 1: Enabled	1	☆
P9-01	Motor overload protection gain	0.20 to 10.00	1.00	☆
P9-02	Motor overload pre-warning coefficient	50% to 100%	80%	☆
P9-03	Overvoltage protection gain	0 (no overvoltage stall) to 100	30	☆
P9-04	Overvoltage protection voltage	650 to 800 V	760 V	☆
P9-07	Selection of detecting short-circuit to ground	00 to 11	01	☆
P9-08	Braking unit applied voltage	700 to 800 V	780 V	★
P9-09	Auto reset times	0 to 20		☆
P9-10	Selection of DO action during auto reset	0: Not act 1: Act		☆
P9-11	Delay of auto reset	0.1s to 100.0s	1.0s	☆
P9-12	Input phase loss/pre-charge relay protectio	00 to 11		☆
P9-13	Output phase loss protection	00 to 11	0 1	☆
P9-14	1st fault type	0 to 55		●
P9-15	2nd fault type	0 to 55		●
P9-16	3rd (latest) fault type	0 to 55		●
P9-17	Frequency upon 3rd fault	-		●
P9-18	Current upon 3rd fault	-		●
P9-19	Bus voltage upon 3rd fault	-		●
P9-20	DI state upon 3rd fault	-		●
P9-21	DO state upon 3rd fault	-		●

Para. No.	Para. Name	Setting Range	Default	Property
P9-22	AC drive state upon 3rd fault	-	—	●
P9-23	Power-on time upon 3rd fault	-	—	●
P9-24	Running time upon 3rd fault	-	—	●
P9-25	Back EMF upon 3rd fault	-	—	●
P9-27	Frequency upon 2nd fault	-	—	●
P9-28	Current upon 2nd fault	-	—	●
P9-29	Bus voltage upon 2nd fault	-	—	●
P9-30	DI state upon 2nd fault	-	—	●
P9-31	DO state upon 2nd fault	-	—	●
P9-32	AC drive state upon 2nd fault	-	—	●
P9-33	Power-on time upon 2nd fault	-	—	●
P9-34	Running time upon 2nd fault	-	—	●
P9-35	Back EMF upon 2nd fault	-	—	●
P9-37	Frequency upon 1st fault	-	—	●
P9-38	Current upon 1st fault	-	—	●
P9-39	Bus voltage upon 1st fault	-	—	●
P9-40	DI state upon 1st fault	-	—	●
P9-41	DO state upon 1st fault	-	—	●
P9-42	AC drive state upon 1st fault	-	—	●
P9-43	Power-on time upon 1st fault	-	—	●
P9-44	Running time upon 1st fault	-	—	●
P9-45	Back EMF upon 1st fault	-	—	●
P9-47	Fault protection action selection 1	00000 to 22222	0000	☆
P9-48	Fault protection action selection 2	00000 to 11111	0000	☆
P9-49	Fault protection action selection 3	00000 to 22222	0000	☆
P9-50	Fault protection action selection 4	00000 to 22222	00000	☆
P9-54	Frequency selection for continuing to run upon fault	0: Current running frequency 1: Frequency reference 2: Frequency upper limit 3: Frequency lower limit 4: Backup frequency upon abnormality	0	☆
P9-55	Backup frequency upon fault	0.0% to 100.0% (max. frequency)	100.0%	☆
P9-56	Type of motor temperature sensor	0: No temperature sensor 1: PT100 2: PT1000	0	☆
P9-57	Motor overheat protection threshold	0° C to 200° C	110° C	☆
P9-58	Motor overheat pre-warning threshold	0° C to 200° C	90° C	☆
P9-59	Power dip ride-through function selection	0: Disabled 1: Bus voltage constant control 2: Decelerate to stop	0	★
P9-60	Threshold of power dip ride-through	80% to 100%	85%	★

Para. No.	Para. Name	Setting Range	Default	Property
P9-61	Judging time of bus voltage recovering from power dip	0.0s to 100.0s	0.5s	★
P9-62	function disabled Threshold of power dip ride-through function enabled	60% to 100%	80%	★
P9-63	Load lost protection	0: Disabled 1: Enabled	0	☆
P9-64	Load lost detection level	0.0% to 100.0%	10.0%	☆
P9-65	Load lost detection time	0.0s to 60.0s	1.0s	☆
P9-67	Overspeed detection level	0.0% to 50.0% (max. frequency)	20.0%	☆
P9-68	Overspeed detection time	0.01s to 0.600s	0.010s	☆
P9-69	Detection level of speed error	0.0% to 50.0% (max. frequency)	20.0%	☆
P9-70	Detection time of speed error	0.0s: No detection 0.1s to 60.0s	5.0s	☆
P9-71	Power dip ride-through gain Kp	0 to 100	40	☆
P9-72	Power dip ride-through integral coefficient	0 to 100	30	☆
P9-73	Deceleration time of power dip ride-through	0.0s to 300.0s	20.0s	★
P9-74	UVW encoder fault (Err20) selection	0: Disabled 1: Enabled	1	☆
P9-75	Fault protection action selection 5		11	☆

Para. No.	Para. Name	Setting Range	Default	Property
Group FA: PID Function				
PA-00	PID reference setting channel	0 to 6	0	☆
PA-01	PID digital setting	0.0% to 100.0%	50.0%	☆
PA-02	PID feedback setting channel	0 to 8	0	☆
PA-03	PID operation direction	0, 1	0	☆
PA-04	PID reference and feedback range	0 to 65535	1000	☆
PA-05	Proportional gain Kp1	0.0 to 1000.0	20.0	☆
PA-06	Integral time Ti1	0.01s to 10.00s	2.00s	☆
PA-07	Differential time Td1	0.000s to 10.000s	0.000s	☆
PA-08	PID output limit in reverse direction	0.00 Hz to max. frequency	0.00 Hz	★
PA-09	PID error limit	0.0% to 100.0%	0.0%	☆
PA-10	PID differential limit	0.00% to 100.00%	0.10%	☆
PA-11	PID reference change time	0.00s to 650.00s	0.00s	☆

Para. No.	Para. Name	Setting Range	Default	Property
PA-12	PID feedback filter time	0.00s to 60.00s	0.00s	☆
PA-13	PID output filter time	0.00s to 60.00s	0.00s	☆
PA-14	Reserved	-	-	-
PA-15	Proportional gain Kp2	0.0 to 1000.0	20.0	☆
PA-16	Integral time Ti2	0.01s to 10.00s	2.00s	☆
PA-17	Differential time Td2	0.000s to 10.000s	0.000s	☆
PA-18	PID parameter switchover condition	0 to 3	0	☆
PA-19	PID error 1 for auto switchover	0.0% to FA-20	20.0%	☆
PA-20	PID error 2 for auto switchover	FA-19 to 100.0%	80.0%	☆
PA-21	PID initial value	0.0% to 100.0%	0.0%	☆
PA-22	PID initial value active time	0.00s to 650.00s	0.00s	☆
PA-23	Reserved	-	-	-
PA-24	Reserved	-	-	-
PA-25	PID integral property	00 to 11	00	☆
PA-26	Detection level of PID feedback loss	0%: No detection 0.1% to 100.0%	0.0%	☆
PA-27	Detection time of PID feedback loss	0.0s to 20.0s	0.0s	☆
PA-28	Selection of PID operation at stop	0, 1	0	☆
Group Pb: Wobble Function, Fixed Length and Count				
Pb-00	Wobble setting mode	0, 1	0	☆
Pb-01	Wobble amplitude	0.0% to 100.0%	0.0%	☆
Pb-02	Wobble step	0.0% to 50.0%	0.0%	☆
Pb-03	Wobble cycle	0.1s to 3000.0s	10.0s	☆
Pb-04	Triangular wave rising time coefficient	0.1% to 100.0%	50.0%	☆
Pb-05	Set length	0 to 65535 m	1000 m	☆
Pb-06	Actual length	0 to 65535 m	0 m	☆
Pb-07	Number of pulses per meter	0.1 to 6553.5	100.0	☆
Pb-08	Set count value	1 to 65535	1000	☆
Pb-09	Designated count value	1 to 65535	1000	☆
Group Pc: Multi-Reference and Simple PLC Function				
PC-00	Reference 0	-100.0% to 100.0%	0.0%	☆
PC-01	Reference 1	-100.0% to 100.0%	0.0%	☆
PC-02	Reference 2	-100.0% to 100.0%	0.0%	☆
PC-03	Reference 3	-100.0% to 100.0%	0.0%	☆
PC-04	Reference 4	-100.0% to 100.0%	0.0%	☆
PC-05	Reference 5	-100.0% to 100.0%	0.0%	☆
PC-06	Reference 6	-100.0% to 100.0%	0.0%	☆
PC-07	Reference 7	-100.0% to 100.0%	0.0%	☆
PC-08	Reference 8	-100.0% to 100.0%	0.0%	☆
PC-09	Reference 9	-100.0% to 100.0%	0.0%	☆
PC-10	Reference 10	-100.0% to 100.0%	0.0%	☆

Para. No.	Para. Name	Setting Range	Default	Property
PC-11	Reference 11	-100.0% to 100.0%	0.0%	☆
PC-12	Reference 12	-100.0% to 100.0%	0.0%	☆
PC-13	Reference 13	-100.0% to 100.0%	0.0%	☆
PC-14	Reference 14	-100.0% to 100.0%	0.0%	☆
PC-15	Reference 15	-100.0% to 100.0%	0.0%	☆
PC-16	Simple PLC running mode	0: Stop after running one cycle 1: Keep final values after running one cycle 2: Repeat after running one cycle	0	☆
PC-17	Simple PLC retentive selection	00 to 11	00	☆
PC-18	Running time of simple PLC reference 0	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-19	Acceleration/deceleration time of simple PLC reference 0	0 to 3	0	☆
PC-20	Running time of simple PLC reference 1	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-21	Acceleration/deceleration time of simple PLC reference 1	0 to 3	0	☆
PC-22	Running time of simple PLC reference 2	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-23	Acceleration/deceleration time of simple PLC reference 2	0 to 3	0	☆
PC-24	Running time of simple PLC reference 3	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-25	Acceleration/deceleration time of simple PLC reference 3	0 to 3	0	☆
PC-26	Running time of simple PLC reference 4	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-27	Acceleration/deceleration time of simple PLC reference 4	0 to 3	0	☆
PC-28	Running time of simple PLC reference 5	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-29	Acceleration/deceleration time of simple PLC reference 5	0 to 3	0	☆
PC-30	Running time of simple PLC reference 6	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-31	Acceleration/deceleration time of simple PLC reference 6	0 to 3	0	☆
PC-32	Running time of simple PLC reference 7	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-33	Acceleration/deceleration time of simple PLC reference 7	0 to 3	0	☆
PC-34	Running time of simple PLC reference 8	0.0s (h) to 6553.5s (h)	0.0s (h)	☆

Para. No.	Para. Name	Setting Range	Default	Property
PC-35	Acceleration/deceleration time of simple PLC reference 8	0 to 3	0	☆
PC-36	Running time of simple PLC reference 9	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-37	Acceleration/deceleration time of simple PLC reference 9	0 to 3	0	☆
PC-38	Running time of simple PLC reference 10	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-39	Acceleration/deceleration time of simple PLC reference 10	0 to 3	0	☆
PC-40	Running time of simple PLC reference 11	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-41	Acceleration/deceleration time of simple PLC reference 11	0 to 3	0	☆
PC-42	Running time of simple PLC reference 12	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-43	Acceleration/deceleration time of simple PLC reference 12	0 to 3	0	☆
PC-44	Running time of simple PLC reference 13	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-45	Acceleration/deceleration time of simple PLC reference 13	0 to 3	0	☆
PC-46	Running time of simple PLC reference 14	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-47	Acceleration/deceleration time of simple PLC reference 14	0 to 3	0	☆
PC-48	Running time of simple PLC reference 15	0.0s (h) to 6553.5s (h)	0.0s (h)	☆
PC-49	Acceleration/deceleration time of simple PLC reference 15	0 to 3	0	☆
PC-50	Time unit of simple PLC running	0: s 1: h	0	☆
PC-51	Reference 0 source	0: Set by FC-00 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: PID reference 6: Set through UP/DOWN key/function based on preset frequency (F0-08)	0	☆

Para. No.	Para. Name	Setting Range	Default	Property
Group Pd: Communication				
Pd-00	Baud rate	0000 to 6039	5005	☆
Pd-01	Data format symbol	0 to 3	0	☆
Pd-02	Local address	0: Broadcast address; 1 to 247	1	☆
Pd-03	Response delay	0 to 20 ms	2	☆
Pd-04	Communication timeout	0.0: invalid 0.1s to 60.0s	0.0s	☆
Pd-05	Modbus protocol selection and PROFIBUS-DP data frame	00 to 31	30	☆
Pd-06	Current resolution read by communication	0: 0.01A 1: 0.1A	0	☆
Pd-08	CANlink communication timeout time	0.0: Invalid 0.1 to 60.0s	0	☆
Group PE: User-Defined Parameters				
PE-00	User-defined parameter 0	F0-00 to FP-xx, A0-00 to Ax-xx, U0-00 to U0-xx, U3- 00 to U3-xx	F0-00	☆
PE-01	User-defined parameter 1	Same as FE-00	F0-02	☆
PE-02	User-defined parameter 2	Same as FE-00	F0-03	☆
PE-03	User-defined parameter 3	Same as FE-00	F0-07	☆
PE-04	User-defined parameter 4	Same as FE-00	F0-08	☆
PE-05	User-defined parameter 5	Same as FE-00	F0-17	☆
PE-06	User-defined parameter 6	Same as FE-00	F0-18	☆
PE-07	User-defined parameter 7	Same as FE-00	F3-00	☆
PE-08	User-defined parameter 8	Same as FE-00	F3-01	☆
PE-09	User-defined parameter 9	Same as FE-00	F4-00	☆
PE-10	User-defined parameter 10	Same as FE-00	F4-01	☆
PE-11	User-defined parameter 11	Same as FE-00	F4-02	☆
PE-12	User-defined parameter 12	Same as FE-00	F5-04	☆
PE-13	User-defined parameter 13	Same as FE-00	F5-07	☆
PE-14	User-defined parameter 14	Same as FE-00	F6-00	☆
PE-15	User-defined parameter 15	Same as FE-00	F6-10	☆
PE-16	User-defined parameter 16	Same as FE-00	F0-00	☆
PE-17	User-defined parameter 17	Same as FE-00	F0-00	☆
PE-18	User-defined parameter 18	Same as FE-00	F0-00	☆
PE-19	User-defined parameter 19	Same as FE-00	F0-00	☆
PE-20	User-defined parameter 20	Same as FE-00	F0-00	☆
PE-21	User-defined parameter 21	Same as FE-00	F0-00	☆
PE-22	User-defined parameter 22	Same as FE-00	F0-00	☆
PE-23	User-defined parameter 23	Same as FE-00	F0-00	☆
PE-24	User-defined parameter 24	Same as FE-00	F0-00	☆
PE-25	User-defined parameter 25	Same as FE-00	F0-00	☆
PE-26	User-defined parameter 26	Same as FE-00	F0-00	☆
PE-27	User-defined parameter 27	Same as FE-00	F0-00	☆
PE-28	User-defined parameter 28	Same as FE-00	F0-00	☆
PE-29	User-defined parameter 29	Same as FE-00	F0-00	☆

Para. No.	Para. Name	Setting Range	Default	Property
Group PF: Manufacturer Parameters, Access Denied				
Group PP: Function Parameter Management				
PP-00	User password	0 to 65535	0	☆
PP-01	Parameter initialization	00: No operation 01: Restore factory parameters except motor parameters 02: Clear records 04: Back up current user parameters 501: Restore user backup	0	★
PP-02	Parameter display		11	★
PP-03	Selection of		00	☆
PP-04	Selection of parameter modification	0: Disabled 1: Enabled	0	☆
Group A0: Torque Control and Limit				
A1-00	VDI1 function selection	0 to 59 same with F4-00 to F4-09	0	★
A1-01	VDI2 function selection		0	★
A1-02	VDI3 function selection		0	★
A1-03	VDI4 function selection		0	★
A1-04	VDI5 function selection		0	★
A1-05	VDI active state setting mode	00000 to 11111	00000	★
A1-06	Selection of VDI active state	00000 to 11111	00000	★
A1-07	Function selection for AI1	0 to 59	0	★
A1-08	Function selection for AI2	0 to 59	0	★
A1-09	Function selection for AI3	0 to 59	0	★
A1-10	Active state selection for AI	000 to 111	000	★
A1-11	VD01 function selection	0 to 41	0	☆
A1-12	VD02 function selection	0 to 41	0	☆
A1-13	VD03 function selection	0 to 41	0	☆
A1-14	VD04 function selection	0 to 41	0	☆
A1-15	VD05 function selection	0 to 41	0	☆
A1-16	VD01 output delay	0.0s to 3600.0s	0.0s	☆
A1-17	VD02 output delay	0.0s to 3600.0s	0.0s	☆
A1-18	VD03 output delay	0.0s to 3600.0s	0.0s	☆
A1-19	VD04 output delay	0.0s to 3600.0s	0.0s	☆
A1-20	VD05 output delay	0.0s to 3600.0s	0.0s	☆
A1-21	VDO active mode selection	00000 to 11111	00000	☆
Group A2: Motor 2 Parameters				
A2-00	Motor type selection	2: PMSM	2	★
A2-01	Rated motor power	0.1 to 1000.0 kW	Model dependent	★
A2-02	Rated motor voltage	1 to 2000 V	Model dependent	★
A2-03	Rated motor current	0.01 to 655.35 A (AC drive power ≤ 55 kW) 0.1 to 6553.5 A (AC drive power > 55 kW)	Model dependent	★
A2-04	Rated motor frequency	0.01 Hz to max. frequency	Model dependent	★
A2-05	Rated motor speed	1 to 65535 rpm	Model dependent	★

Para. No.	Para. Name	Setting Range	Default	Property
A2-16	Stator resistance of PMSM	0.001 to 65.535 Ω (AC drive power ≤ 55 kW) 0.0001 to 6.5535 Ω (AC drive power > 55 kW)	Model dependent	★
A2-17	d-axis inductance of PMSM	0.01 to 655.35 mH (AC drive power ≤ 55 kW) 0.001 to 65.535mH (AC drive power > 55 kW)	Model dependent	★
A2-18	q-axis inductance of PMSM	0.01 to 655.35 mH (AC drive power ≤ 55 kW) 0.001 to 65.535mH (AC drive power > 55 kW)	Model dependent	★
A2-20	Back EMF coefficient of PMSM	0.1 to 6553.5 V	Model dependent	★
A2-27	Encoder pulses per revolution	1 to 65535	1024	★
A2-28	Encoder type	0: ABZ incremental encoder 1: UVW incremental encoder 2: Resolver	0	★
A2-29	Speed feedback channel selection	0: Local PG card 1: Extension PG card 2: Pulse input (DI5)	0	★
A2-30	A/B phase sequence of ABZ incremental encoder	0: Forward 1: Reserve	0	★
A2-31	Encoder installation angle	0.0 to 359.9°	0.0	★
A2-34	Number of pole pairs of resolver	1 to 65535	1	★
A2-36	Encoder wire-break fault detection time	0.0s: No detection 0.1s to 10.0s	0.0s	★
A2-37	Auto-tuning selection	00 to 12	0	★
A2-38	Speed loop proportional gain 1	1 to 100	30	☆
A2-39	Speed loop integral time 1	0.01s to 10.00s	0.50	☆
A2-40	Switchover frequency 1	0.00 to A2-43	5.00	☆
A2-41	Speed loop proportional gain 2	1 to 100	20	☆
A2-42	Speed loop integral time 2	0.01s to 10.00s	1.00	☆
A2-43	Switchover frequency 2	A2-40 to max. frequency	10.00	☆
A2-47	Torque limit source in speed control	0 to 7	0	☆
A2-48	Digital setting of torque limit in speed control	0.0% to 200.0%	150.0%	☆
A2-49	Torque limit source in speed control (regenerative)	0 to 8	0	☆
A2-50	Digital setting of torque limit in speed control (regenerative)	0.0% to 200.0%	150.0%	☆

Para. No.	Para. Name	Setting Range	Default	Property
A2-51	Excitation adjustment proportional gain	0 to 20000	2000	☆
A2-52	Excitation adjustment integral gain	0 to 20000	1300	☆
A2-53	Torque adjustment proportional gain	0 to 20000	2000	☆
A2-54	Torque adjustment integral gain	0 to 20000	1300	☆
A2-56	Flux weakening mode of PMSM	0, 1, 2, 3	1	☆
A2-57	Flux weakening gain of PMSM	1 to 50	5	☆
A2-60	Regenerative power limit selection	0: Disabled 1: Enabled in whole process	0	☆
A2-61	Motor 2 control mode	0: SVC 1: FVC 2: V/F control	0	★
A2-62	Motor 2 acceleration/ deceleration time selection	0: The same as that of motor 1 1: Acceleration/Deceleration 1 2: Acceleration/Deceleration 2 3: Acceleration/Deceleration 3 4: Acceleration/Deceleration 4	0	☆
A2-66	Margin of output voltage upper limit of PMSM	0% to 50%	5%	☆
A2-67	Detection current of initial position angle of PMSM	50% to 180%	80%	☆
A2-68	Detection of initial position angle of PMSM	0, 1, 2	0	☆
A2-70	Salient-pole rate adjustment gain of PMSM	50 to 500	100	☆
A2-71	Max. torque/current ratio control	0, 1	0	☆
A2-75	Signal Z correction	0, 1	1	☆
A2-79	Low-speed excitation current	0 to 80%	30%	☆
A2-80	Low-speed carrier frequency	0.8K to F0-15	1.5K	☆
A2-81	Low-frequency braking mode in SVC	0, 1	0	☆
A2-82	Low-frequency braking applied frequency in SVC	0 to 10.00 Hz	2.00Hz	
A2-83	Low-frequency braking frequency change step	0.0005 to 1.0000 Hz	0.0010Hz	☆
A2-84	Low-frequency braking current in SVC	0% to 80%	50%	☆
A2-85	Catching the spinning synchronous motor in SVC	0 to 1	0	☆
A2-86	Zero servo selection	0 to 1	0	☆

Para. No.	Para. Name	Setting Range	Default	Property
A2-82	Low-frequency braking applied frequency in SVC	0 to 10.00 Hz	2.00Hz	☆
A2-83	Low-frequency braking frequency change step	0.0005 to 1.0000 Hz	0.0010Hz	☆
A2-84	Low-frequency braking current in SVC	0% to 80%	50%	☆
A2-85	Catching the spinning synchronous motor in SVC	0 to 1	0	☆
A2-86	Zero servo selection	0 to 1	0	☆
A2-87	Switchover frequency	0.00 to F2-02	0.30Hz	☆
A2-88	Speed loop proportional gain of zero servo	1 to 100	10	☆
A2-89	Speed loop integral time of zero servo	0.01s to 10.00s	0.50s	☆
A2-90	Reverse run prevented at stop	0, 1	0	☆
A2-91	Stop angle	0.0° to 10.0°	0.8°	☆
Group A5: Control Optimization				
A5-00	DPWM switchover frequency upper limit	5.00 Hz to max. frequency	8.00 Hz	☆
A5-01	PWM modulation pattern	0, 1	0	☆
A5-02	Dead zone compensation mode selection	0, 1	1	☆
A5-03	Random PWM depth	0 to 10	0	☆
A5-04	Overcurrent fast prevention	0, 1	1	☆
A5-05	Max. output voltage coefficient	100% to 120%	110%	★
A5-06	Undervoltage threshold	210 to 420 V	350 V	☆
A5-08	Dead-zone time adjustment	100% to 200%	150%	★
A5-09	Overvoltage threshold	200.0 to 820.0 V	820.0V	★
Group A6: AI Curve Setting				
A6-00	AI curve 4 min. input	-10.00 V to A6-02	0.00 V	☆
A6-01	Corresponding percentage of AI curve 4 min. input	-100.0% to 100.0%	0.0%	☆
A6-02	AI curve 4 inflexion 1 input	A6-00 to A6-04	3.00 V	☆
A6-03	Corresponding percentage of AI curve 4 inflexion 1 input	-100.0% to 100.0%	30.0%	☆
A6-04	AI curve 4 inflexion 2 input	A6-02 to A6-06	6.00 V	☆
A6-05	Corresponding percentage of AI curve 4 inflexion 2 input	-100.0% to 100.0%	60.0%	☆
A6-06	AI curve 4 max. input	A6-04 to 10.00 V	10.00 V	☆

Para. No.	Para. Name	Setting Range	Default	Property
A6-07	Corresponding percentage of AI curve 4 max. input	-100.0% to 100.0%	100.0%	☆
A6-08	AI curve 5 min. input	-10.00 V to A6-10	-10.00 V	☆
A6-09	Corresponding percentage of AI curve 5 min. input	-100.0% to 100.0%	-100.0%	☆
A6-10	AI curve 5 inflexion 1 input	A6-08 to A6-12	-3.00 V	☆
A6-11	Corresponding percentage of AI curve 5 inflexion 1 input	-100.0% to 100.0%	-30.0%	☆
A6-12	AI curve 5 inflexion 2 input	A6-10 to A6-14	3.00 V	☆
A6-13	Corresponding percentage of AI curve 5 inflexion 2 input	-100.0% to 100.0%	30.0%	☆
A6-14	AI curve 5 max. input	A6-12 to 10.00 V	10.00 V	☆
A6-15	Corresponding percentage of AI curve 5 max. input	-100.0% to 100.0%	100.0%	☆
A6-24	Jump point of AI1 input corresponding setting	-100.0% to 100.0%	0.0%	☆
A6-25	Jump amplitude of AI1 input corresponding setting	0.0% to 100.0%	0.5%	☆
A6-26	Jump point of AI2 input corresponding setting	-100.0% to 100.0%	0.0%	☆
A6-27	Jump amplitude of AI2 input corresponding setting	0.0% to 100.0%	0.5%	☆
A6-28	Jump point of AI3 input corresponding setting	-100.0% to 100.0%	0.0%	☆
A6-29	Jump amplitude of AI3 input corresponding setting	0.0% to 100.0%	0.5%	☆
Group A7: User Programmable Card				
A7-00	User programmable function selection	0: Disabled 1: Enabled	0	★
A7-01	AC drive output terminal control source selection	00000 to 11111	00000	★
A7-02	User programmable card AI3 and A02 function selection	0 to 7	0	★
A7-03	PLC program controls the FMP output	0.0% to 100.0%	0.0%	☆
A7-04	PLC program controls the A01 output	0.0% to 100.0%	0.0%	☆

Para. No.	Para. Name	Setting Range	Default	Property
A7-05	Selection of PLC program controlling digital output	000 to 111	000	☆
A7-06	Setting frequency reference via the user programmable card	-100.00% to 100.00%	0.00%	☆
A7-07	Setting torque reference via the user programmable card	-200.0% to 200.0%	0.0%	☆
A7-08	Setting running command via the user programmable card	0 to 7	0	☆
A7-09	Setting torque reference via the user programmable card	0: No fault 80 to 89: User defined fault code	0	☆
Group A8: Point-point Communication				
A8-00	Point-point communication	0: Disabled 1: Enabled	0	☆
A8-01	Master or slave selection	0: Master 1: Slave	0	☆
A8-02	Selection of action of the slave in point-point communication	000 to 111	011	★
A8-03	The slave received data	0: Torque reference 1: Frequency reference	0	☆
A8-04	Zero offset of received data	-100.00 to 100.00	0.00	★
A8-05	Gain of received data	-10.00 to 10.00	1.00	★
A8-06	Point-point communication interruption detection time	0.0s to 10.0s	1.0s	☆
A8-07	Master data sending cycle in point-point communication	0.001s to 10.000s	0.001s	☆
A8-11	Window width	0.20 to 10.00 Hz	0.50 Hz	☆
Group AC: AI/AO Correction				
AC-00	AI1 measured voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-01	AI1 displayed voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-02	AI1 measured voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-03	AI1 displayed voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-04	AI2 measured voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-05	AI2 displayed voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-06	AI2 measured voltage 2	-10.00 to 10.000 V	Factory-corrected	☆

Para. No.	Para. Name	Setting Range	Default	Property
AC-06	AI2 measured voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-07	AI2 displayed voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-08	AI3 measured voltage 1	Factory-corrected	Factory-corrected	☆
AC-09	AI3 displayed voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-10	AI3 measured voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-11	AI3 displayed voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-12	A01 target voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-13	A01 measured voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-14	A01 target voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-15	A01 measured voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-16	A02 target voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-17	A02 measured voltage 1	-10.00 to 10.000 V	Factory-corrected	☆
AC-18	A02 target voltage 2	-10.00 to 10.000 V	Factory-corrected	☆
AC-19	A02 measured voltage 2	-10.00 to 10.000 V	Factory-corrected	☆

1.3 Monitoring Parameters

Parameter No.	Parameter Name	Min. Unit
Group U0: Monitoring Parameters		
U0-00	Running frequency	0.01Hz
U0-01	Frequency reference	0.01Hz
U0-02	Bus voltage	0.1 V
U0-03	Output voltage	1V
U0-04	Output current	0.01 A
U0-05	Output power	0.1 kW
U0-06	Output torque	0.1%
U0-07	DI state	1
U0-08	DO state	1
U0-09	AI1 voltage (V)	0.01V
U0-10	AI2 voltage (V)/Current (mA)	0.01V/0.01mA
U0-11	AI3 voltage (V)	0.01V
U0-12	Count value	1
U0-13	length value	1
U0-14	Load speed display	1
U0-15	PID reference	1
U0-16	PID feedback	1

Parameter No.	Parameter Name	Min. Unit
U0-17	PLC stage	1
U0-18	Pulse reference	0.01 kHz
U0-19	Feedback speed	0.01Hz
U0-20	Remaining running time	0.1 Min
U0-21	AI1 voltage before correction	0.001 V
U0-22	AI2 voltage (V)/ current (mA) before correction	0.001 V/0.01 mA
U0-23	AI3 voltage before correction	0.001 V
U0-24	Motor speed	1 m/Min
U0-25	Accumulative power-on time	1Min
U0-26	Accumulative running time	0.1 Min
U0-27	Pulse reference	1Hz
U0-28	Communication reference	0.01%
U0-29	Encoder feedback speed	0.01Hz
U0-30	Main frequency reference	0.01Hz
U0-31	Auxiliary frequency reference	0.01Hz
U0-32	Viewing any register address value	1
U0-34	Motor temperature	1° C
U0-35	Target torque	0.1%
U0-36	Resolver position	1
U0-37	Power factor angle	0.1°
U0-38	ABZ position	1
U0-39	Target voltage upon V/F separation	1V
U0-40	Output voltage upon V/F separation	1V
U0-41	DI state display	1
U0-42	DO state display	1
U0-43	DI set for function state display 1	1
U0-44	DI set for function state display 2	1
U0-45	Fault information	1
U0-58	Phase Z counting	1
U0-59	Frequency Reference	0.01%
U0-60	Running frequency	0.01%
U0-61	AC drive state	1
U0-62	Current fault code	1
U0-63	Sending value of point-point communication	0.01%
U0-64	Number of slaves	1
U0-65	Torque upper limit	0.1%
U0-66	Communication extension card type	100: CANopen 200: PROFIBUS-DP 300: CANlink
U0-67	Communication extension card version	-
U0-68	AC drive status read via DP card	bit0: Running status bit1: Running direction bit2: Whether AC drive is faulty bit3: Target frequency reached bit4 to bit7: Reserved bit8 to bit15: Fault code
U0-69	Speed of transmitting DP	0.00 Hz to max. frequency

Parameter No.	Parameter Name	Min. Unit
U0-70	Motor speed of transmitting DP	0 to motor rating
U0-71	Communication card current display	-
U0-72	Communication card faulty state	-
U0-73	Motor SN	0: Motor 1 1: : Motor 2
U0-74	Back EMF	0.1 V
U0-76	AC drive in hibernating status	0

2 Troubleshooting

Display	Fault Name	Possible Causes	Solutions
Err02	Overcurrent during acceleration	Ground fault or short circuit exists in the output circuit.	Check whether short-circuit occurs on the motor, motor cable or contactor.
		Control mode is SVC or FVC but motor auto-tuning is not performed.	Set motor parameters according to motor nameplate and perform motor auto-tuning.
		Acceleration time is too short.	Increase acceleration time.
		The overcurrent stall prevention parameters are set improperly.	Ensure that current limit is enabled (F3-19 = 1). The setting of current limit level (F3-18) is too large. Adjust it between 120% and 150%. The setting of current limit gain (F3-20) is too small. Adjust it between 20 and 40.
		Customized torque boost or V/F curve is not appropriate.	Adjust the customized torque boost or V/F curve.
		The spinning motor is started.	Enable the catching a spinning motor function or start the motor after it stops.
	The AC drive suffers external interference.	View historical fault records. If the current value is far from the overcurrent level, find interference source. If external interference does not exist, it is the drive board or hall device problem.	
Err03	Overcurrent during deceleration	Ground fault or short circuit exists in the output circuit.	Check whether short-circuit occurs on the motor, motor cable or contactor.
		Control mode is SVC or FVC but motor auto-tuning is not performed.	Set the motor parameters according to the motor nameplate and perform motor auto-tuning.
		Acceleration time is too short.	Increase acceleration time.
		The overcurrent stall prevention parameters are set improperly.	Ensure that current limit is enabled (F3-19 = 1). The setting of current limit level (F3-18) is too large. Adjust it between 120% and 150%. The setting of the current limit gain (F3-20) is too small. Adjust it between 20 and 40.
		Braking unit and braking resistor are not installed.	Install braking unit and braking resistor.
		The AC drive suffers external interference.	View historical fault records. If the current value is far from the overcurrent level, find interference source. If external interference does not exist, it is the drive board or hall device problem.

Display	Fault Name	Possible Causes	Solutions
Err04	Overcurrent at constant speed	Ground fault or short circuit exists in the output circuit.	Check whether short-circuit occurs on the motor, motor cable or contactor.
		Control mode is SVC or FVC but motor auto-tuning is not performed.	Set motor parameters according to motor nameplate and perform motor auto-tuning.
		The overcurrent stall prevention parameters are set improperly.	Ensure that current limit is enabled (F3-19 = 1). The setting of current limit level (F3-18) is too large. Adjust it between 120% and 150%. The setting of current limit gain (F3-20) is too small. Adjust it between 20 and 40.
		The AC drive power class is small.	If output current exceeds rated motor current or rated output current of the AC drive during stable running, replace a drive of larger power class.
		The AC drive suffers external interference.	View historical fault records. If the current value is far from the overcurrent level, find interference source. If external interference does not exist, it is the drive board or hall device problem.
Err05	Overvoltage during acceleration	Input voltage is too high.	Adjust input voltage to normal range.
		An external force drives motor during acceleration.	Cancel the external force or install a braking resistor.
		The overvoltage stall prevention parameters are set improperly.	Ensure that the voltage limit function is enabled (F3-23 = 1). The setting of voltage limit (F3-22) is too large. Adjust it between 700 V and 770 V. The setting of frequency gain for voltage limit (F3-24) is too small. Adjust it between 30 and 50.
		Braking unit and braking resistor are not installed.	Install braking unit and braking resistor.
Err06	Overvoltage during deceleration	Acceleration time is too short.	Increase acceleration time.
		The overvoltage stall prevention parameters are set improperly.	Ensure that the voltage limit function is enabled (F3-23 = 1). The setting of voltage limit (F3-22) is too large. Adjust it between 700 V and 770 V. The setting of frequency gain for voltage limit (F3-24) is too small. Adjust it between 30 and 50.
		An external force drives motor during deceleration.	Cancel the external force or install braking resistor.

Display	Fault Name	Possible Causes	Solutions
		Deceleration time is too short.	Increase deceleration time.
		Braking unit and braking resistor are not installed.	Install braking unit and braking resistor.
Err07	Overvoltage at constant speed	The overvoltage stall prevention parameters are set improperly.	Ensure that the voltage limit function is enabled (F3-23 = 1). The setting of voltage limit (F3-22) is too large. Adjust it between 700 V and 770 V. The setting of frequency gain for voltage limit (F3-24) is too small. Adjust it between 30 and 50. The setting of frequency rise threshold during voltage limit (F3-26) is too small. Adjust it between 5Hz and 20 Hz.
		An external force drives motor during running.	Cancel the external force or install a braking resistor
Err08	Pre-charge resistor fault	Bus voltage fluctuates around undervoltage threshold continuously.	Contact the agent or Inovance.
Err09	Undervoltage	Instantaneous power failure occurs	Enable power dip ride through (F9-59 \neq 0).
		The AC drive's input voltage is not within the permissible range.	Adjust the voltage to normal range.
		The bus voltage is abnormal.	Contact the agent or Inovance.
		The rectifier bridge, the buffer resistor, the drive board or the control board are abnormal.	Contact the agent or Inovance.
Err10	Drive overload	Load is too heavy or locked-rotor occurs on motor.	Reduce load or check motor and mechanical conditions.
		The AC drive power class is small.	Replace a drive of larger power class.
Err11	Motor overload	F9-01 (Motor overload protection gain) is set improperly.	Set F9-01 correctly.
		Load is too heavy or locked-rotor occurs on motor.	Reduce load or check motor and mechanical conditions.
Err12	Power input phase loss	Input phase loss occurs.	Eliminate faults in external circuitry.
		Drive board, lightning protection board, control board, or rectifier bridge is abnormal.	Contact the agent or Inovance.
Err13	One drive output phase loss	Motor winding is damaged.	Check resistance between motor wires. Replace motor if winding is damaged.
		The cable connecting the AC drive and the motor is abnormal.	Check for wiring errors and ensure the output cable is connected properly.
		The AC drive's three-phase outputs are unbalanced when the motor is running.	Check whether the motor three-phase winding is normal.
		The drive board or the IGBT is abnormal.	Contact the agent or Inovance.

Display	Fault Name	Possible Causes	Solutions
Err14	IGBT overheat	The ambient temperature is too high.	Lower the ambient temperature.
		The ventilation is clogged.	Clean the ventilation.
		The fan is damaged.	Replace the cooling fan.
		Thermally sensitive resistor of IGBT is damaged.	Replace the damaged thermally sensitive resistor.
		The inverter IGBT is damaged.	Replace the inverter IGBT.
Err15	External equipment fault	External fault signal is input via DI.	Confirm that the mechanical condition allows restart (F8-18) and reset the operation.
		External fault signal is input via virtual I/O.	Confirm that the virtual I/O parameters in group A1 are set correctly and reset the operation.
Err16	Communication fault	Host computer is in abnormal state.	Check the cable of host computer.
		Communication cable is abnormal.	Check the communication cables.
		The serial port communication protocol (F0-28) of extension communication card is set improperly.	Set F0-28 of extension communication card correctly.
		Communication parameters in group Fd are set improperly.	Set communication parameters in group Fd properly.
		After all the preceding checkings are done but the fault still exists, restore the default settings.	
Err17	Contactor fault	Drive board and power supply are abnormal.	Replace drive board or power supply board.
		Contactor is abnormal.	Replace contactor.
		The lightning protection board is abnormal.	Replace the lightning protection board.
Err18	Current detection fault	The hall is abnormal.	Replace the hall .
		The drive board is abnormal.	Replace the drive board.
Err19	Motor tuning fault	Motor parameters are not set according to nameplate.	Set motor parameters correctly according to nameplate.
		Motor auto-tuning times out.	Check the cable connecting AC drive and motor.
		The encoder is abnormal.	Check whether F1-27 (encoder pulses per revolution) is set correctly. Check whether signal lines of encoder are connected correctly and securely.
Err20	Encoder fault	Encoder is not matched.	Set the type of encoder correctly.
		Encoder wiring is incorrect.	Check the PG card power supply and phase sequence.
		Encoder is damaged.	Replace encoder.
		PG card is abnormal.	Replace PG card.
Err21	EEPROM read write fault	The EEPROM chip is damaged.	Replace the main control board.
Err23	Short circuit to ground	Motor is short circuited to the ground.	Replace cable or motor.
Err26	Accumulative running time reached	Accumulative running time reaches the setting value.	Clear the record through parameter initialization.

Display	Fault Name	Possible Causes	Solutions
Err27	User-defined fault 1	User-defined fault 1 is input via DI.	Reset the operation.
		User-defined fault 1 is input via virtual I/O.	
Err28	User-defined fault 2	User-defined fault 2 is input via DI.	Reset the operation.
		User-defined fault 2 is input via virtual I/O.	
Err29	Accumulative power-on time reached	Accumulative power-on time reaches the setting value.	Clear the record through parameter initialization.
Err30	Off load fault	The output current of AC drive is smaller than F9-64 (load loss detection level).	Check whether load is disconnected or the setting of F9-64 and F9-65 (load lost detection time) satisfies actual running condition.
Err31	PID feedback lost during running	PID feedback is smaller than the setting value of FA-26 (detection level of PID feedback loss).	Check PID feedback or set FA-26 properly.
Err40	Quick current limit	Load is too heavy or locked-rotor occurs on motor.	Reduce load or check motor and mechanical conditions.
		The AC drive power class is small.	Replace a drive of larger power class.
Err41	Motor Switch-Hover fault during running	Motor switchover via terminal during drive running of the AC drive.	Perform motor switchover after the AC drive stops.
Err43	Speed error	Encoder parameters are set improperly.	Set encoder parameters properly.
		Motor auto-tuning is not performed.	Perform motor auto-tuning.
		F9-69 (detection level of speed error) and F9-70 (detection time of speed error) are set incorrectly.	Set F9-69 and F9-70 correctly based on actual condition.
Err43	Motor overspeed	Encoder parameters are set improperly.	Set encoder parameters properly.
		Motor auto-tuning is not performed.	Perform motor auto-tuning.
		F9-67 (Overspeed detection level) and F9-68 (Overspeed detection time) are set incorrectly.	Set F9-67 and F9-68 correctly based on the actual situation.
Err45	Motor overtemperature.	Cable connection of temperature sensor becomes loose	Check cable connection of temperature sensor.
		The motor temperature is too high.	Decrease carrier frequency or take other measures to cool the motor.
Err51	Initial position angle auto-tuning fault	The AC drive output phase loss occurs.	Check motor cable wirings and eliminate the fault.
		The AC drive current detection fault occurs or the hall is damaged	Check the hall and eliminate the fault.
		The motor inductance is too large.	Set F9-75 correctly to shield this fault.

Display	Fault Name	Possible Causes	Solutions
Err61	Two or three Drive output phases loss	Resistance of braking resistor is too small.	Replace a braking resistor of larger resistance.
Err62	Short-circuit of braking circuit	Braking IGBT is abnormal.	Contact the agent or Inovance.
R64	Back EMF auto-tuning abnormal warning	Motor parameters are set incorrectly.	Set motor parameters especially rated motor frequency and rated motor speed correctly.
		F1-20 (Back EMF of PMSM) is set incorrectly during static auto-tuning.	Check the setting of F1-20. If the setting is too large or small, modify it correctly.
		Back EMF auto-tuning is abnormal during dynamic auto-tuning.	Check whether the motor is connected to no load during dynamic auto-tuning and whether motor speed reaches 40% of rated motor speed. If motor speed does not reach 40% of rated motor speed because of it is connected to load, disconnect the motor from load and perform auto-tuning again.
		Demagnetization occurs on the motor.	Check whether the motor demagnetizes.
		The back EMF is really very large or very small.	If you confirm that the back EMF is really very large or very small, press the STOP key to reset this warning.