

NISTRO

Manual

GA350 Series Engineering AC Drive



Catalog

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Chapter 1 Overview

1.1 Safety Precaution

To ensure safe and proper use of this product, please fully understand the safety precautions outlined in this manual before using.

● Signs and Meanings

The following signs are used in this manual to highlight the key safety points. Failure to observe these points may result in damages to this product and the associated system, or even personal injuries.

 DANGER	DANGER: Incorrect operation will result in death or major safety incidents.
 CAUTION	CAUTION: Incorrect operation may result in minor injuries.

● Operator

This product must be installed operated and maintained by trained professionals, which means that the personnel working on this product must be trained with specialized skills and knowledge about installation, wiring, operation and maintenance of the equipment, so they can respond correctly to various emergencies that may arise during use.

● Safety Guide

The safety rules and warning signs presented for safety are taken to prevent personal injuries and damages to the products and the associated systems. Please read this manual carefully before use and strictly follow the safety guidelines and warning signs in this manual.

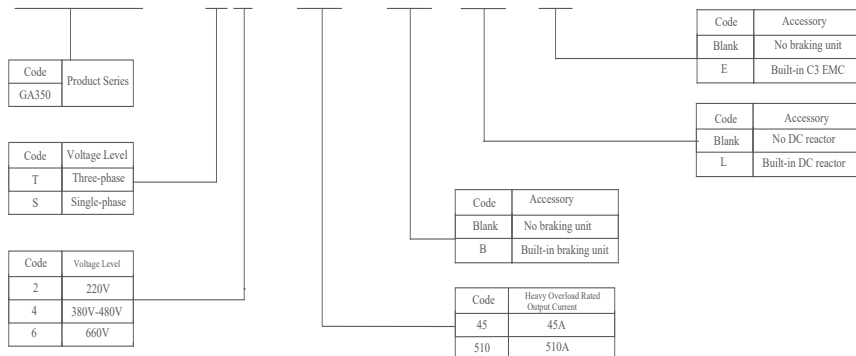
- Correct transportation, storage, installation, as well as careful operation and maintenance are essential for the safe operation of the AC drive. During transportation and storage, it is crucial to protect the AC drive from shocks and vibrations. Additionally, it should be stored in a dry environment free of corrosive gases and conductive dust below 60°C.
- This product carries a dangerous voltage and it controls a potentially dangerous motion mechanism. Failure to comply with the regulations or to operate in accordance with this manual may result in personal injury or death and damage to the product and the associated system.
- Do not perform wiring work while the power is on, as there is a risk of death by electric shock. Before performing wiring, inspection, maintenance, etc., disconnect the power supply to all associated equipment and make sure that the DC voltage in the main circuit has dropped to a safe level for 15 minutes.
- The power cable, motor cable, and control cable must all be tightly connected, and the grounding terminal must be grounded with a grounding resistance of lower than 10Ω.
- Human static electricity can seriously damage internal sensitive devices. Before performing related work, observe the measures and methods specified in the electrostatic discharge prevention measures(ESD), otherwise the drive may be damaged.
- Output voltage of the drive is in a pulse waveform, so if there are devices such as capacitors for power factor improvement or varistors for lightning protection installed on the output side, be sure to remove or move them to the input side.
- Do not add switching devices such as circuit breaker and contactor to the output side of the AC drive.(If it is necessary to connect switching devices to the output side, the control system must ensure that the output current of the AC drive is zero when the switch operates.)
- Apply the necessary external protection measures or backup devices since wherever the malfunction occurs in the control equipment, it may lead to production stoppage and major accidents.
- This product is intended for the manufacturer's specified purposes. Unauthorized applications in such as emergency, rescue, marine, medical, aviation, or facility-related settings are seriously prohibited.
- Maintenance of this product can only be carried out by our company or by professionals authorized and licensed by our company, or accessories may result in product failure. Any defective devices during maintenance must be replaced timely.
- Our company will not be held liable for injuries and equipment damage caused by your company or your customers' failure to comply with the contents of this book.

1.2 Unpacking

Please check the outer packaging for any damage upon receiving the ordered products. And then check the product inside for any damage, scratches, or dirt. (Please note that damage during transportation is not covered by the Three Guarantees warranty policy.) If the product received is damaged during transportation, please contact us or the transportation company immediately. And then further confirm if the type of the received product matches the model you ordered.

● Drive Model and Description

GA350 - T4 - 45 - B - L - E



● AC Drive Ratings

Power (kW) \ Input Voltage (V)	Output Current (A)		
	220	380	660
0.75	4	3	-
1.5	7	4	-
2.2	10	6	-
4	16	10	-
5.5	20	13	-
7.5	30	17	-
11	42	25	-
15	55	32	-
18.5	70	38	-
22	80	45	28
30	110	60	35
37	130	75	45
45	160	90	52
55	200	110	63
75	260	150	86
90	320	180	98
110	380	210	121
132	420	250	150
160	550	310	175

185	600	340	198
200	660	380	218
220	720	415	235
250	-	470	270
280	-	510	330
315	-	600	345
355	-	670	380
400	-	750	430
450	-	810	466
500	-	860	540
560	-	990	600
630	-	1200	690
710	-	1340	760
800	-	1500	860
900	-	1620	932
1000	-	1720	1080
1120	-	1980	1200

1.3 Technical Specifications

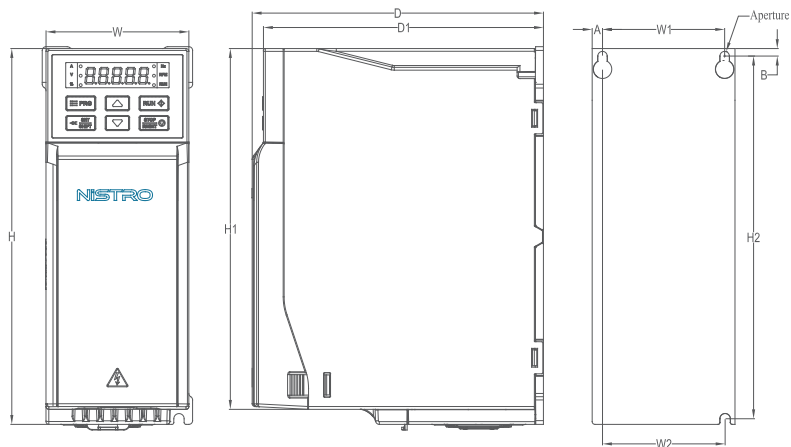
Item		Specification
Power Input	Voltage/frequency	S2: 1PH, 200V~240V, 50Hz/60Hz T2: 3PH, 200V~240V, 50Hz/60Hz T4: 3PH, 480V, 50Hz/60Hz T6: 3PH, 660V~690V, 50Hz/60Hz
	Allowable fluctuation	T/S2:~10%~10% T4:~15%~10% T6:~10%~10% Voltage imbalance rate: <3% Frequency: ±5% Distortion rate with reference to IEC61800-2.
	Switching surge current	<rated current
Output	Output voltage	3PH, 0V~input voltage, bias<5% (under rated conditions)
	Output frequency range	0Hz~599Hz
	Output frequency accuracy	±0.5% of the max. frequency
	Overload capacity	G: 150% of rated current for 89s, 180% of rated current for 10s, and 200% of rated current for 3s P: 120% of rated current for 35s, 140% of rated current for 7s, and 150% of rated current for 3s
Main Control Performance	Motor type	Asynchronous motors, permanent magnet synchronous motors (sine wave), and synchronous reluctance motors
	Control mode	V/F control, SVC, FVC, and voltage-frequency split control
	Modulation	SVPWM
	Carrier frequency	1.0kHz~16.0kHz
	Speed control range	SVC: Rated load 1: 50 (synchronous reluctance motors) SVC: Rated load 1: 200 (asynchronous motors, permanent magnet synchronous motors) FVC: Rated load 1:200

	Speed stabilizing accuracy	SVC: $\pm 0.5\%$ (asynchronous motors), $\pm 0.1\%$ (permanent magnet synchronous motors) FVC: $\pm 0.02\%$
	Starting torque	SVC: 100% of rated torque at 2Hz (synchronous reluctance motors) FVC: 150% of rated torque at 0.25Hz (asynchronous motors and permanent magnet synchronous motors) FVC: 200% of the motor rated torque at 0Hz
	Torque response	SVC: $<10\text{ms}$ FVC: $<5\text{ms}$
	Torque accuracy	SVC: $\pm 5\%$ FVC: $\pm 2.5\%$
	Frequency accuracy	Digit setting: max. frequency $\times (\pm 0.01\%)$ Analog setting: max. frequency $\times (\pm 0.2\%)$
	Frequency resolution	Digit setting: 0.01Hz Analog setting: Max. frequency $\times \pm 0.05\%$
Basic Functions	Torque control	Torque calculation and speed limit in torque mode
	DC brake	Starting frequency: 0.00Hz~50.00Hz; Braking time: 0.0s~60.0s Braking current: 0.0%~150.0%
	Torque boost	Auto torque boost: 0.0%~100.0% Manual torque boost: 0.0%~30.0%
	V/F curve	4 patterns: Linear torque characteristic curve, self-defined V/F curve, torque drop characteristic curve(1.1~2.0 power), and square V/F curve
	ACC/DEC curve	2 patterns: Linear and S-curve acceleration/deceleration 4 sets of ACC/DEC time, unit: 0.01s, 650.00s max.
	Rated output voltage	50%~100% settable with the rated voltage of the motor as 100% (the output cannot exceed the input voltage) by the power voltage compensation function
	Auto voltage regulation	Auto constant holding during grid voltage fluctuation
	Auto ECO mode	Auto output voltage optimization according to the load in V/F control mode to save energy
	Auto current limit	Auto current limit to prevent frequent tripping due to over-current
	Instantaneous power loss mode	Uninterrupted operation through bus voltage control in case of instantaneous power loss
Protections		Over-voltage, under-voltage, current limit, over-current, overload, electronic thermal relay, over-heat, over-voltage stall, data protection, overspeed protection and input/output phase loss protection
Keypad Display	Keypad	Single-line 5-bit digital tube display (37kW and below) Dual-line LCD display (45kW and above)
	Error information	Prompts of overvoltage, undervoltage, overcurrent, short circuit, phase loss, overload, overheat, over-voltage stall, current limit, data damaged etc. operating conditions information under errors, and error history
Environment	Installation	$<1000\text{m}$, derate 1% for every 100m rise when above 1000m No condensation, icing, rain, snow, hail, etc., solar radiation below $700\text{W}/\text{m}^2$, air pressure $70\text{kPa}\sim 106\text{kPa}$
	Temperature, humidity	$-10^{\circ}\text{C}\sim +50^{\circ}\text{C}$, derate above 40°C , 60°C max. (no-load) 5%RH~95%RH (non-condensing)
	Vibration	$5.9\text{m}/\text{s}^2$ (0.6G) at 9Hz~200Hz
	Storage temperature	$-30^{\circ}\text{C}\sim +60^{\circ}\text{C}$
	Installation method	Wall-mounting
	Protection	IP20
	Pollution class	C2
Cooling method		Forced air-cooling

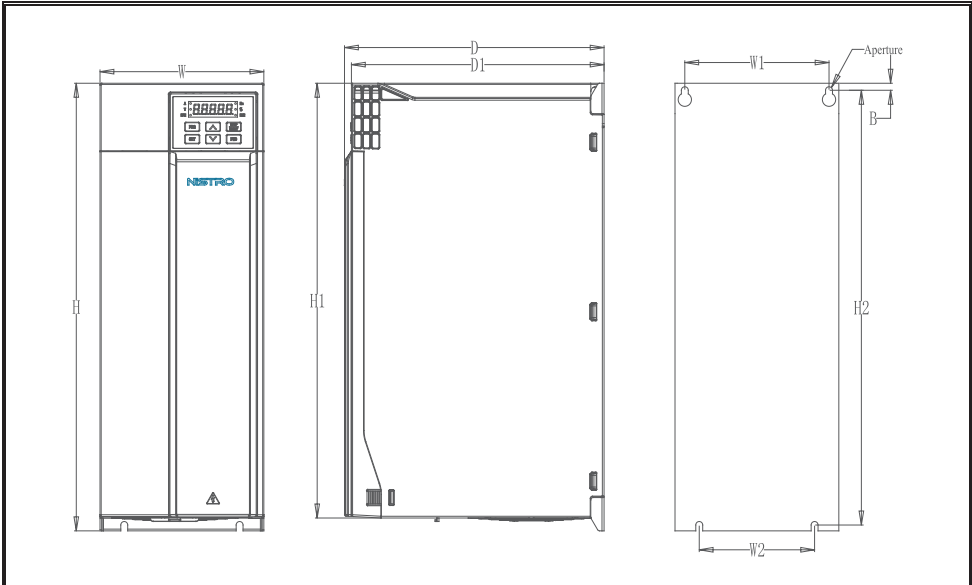
Chapter 2 Installation

To ensure personal safety, maximized product performance and reliable operation of the drive, please use the products in strict accordance with the environmental, wiring and ventilation requirements described in this chapter.

2.1 External Dimensions of AC Drive(Plastic)

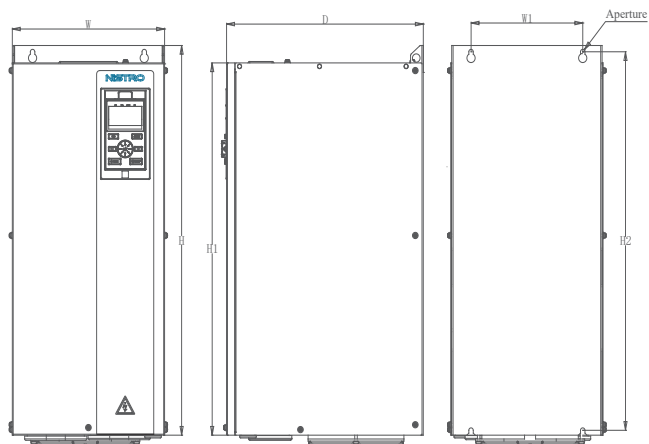


Drive Model	Outer Dimension (mm)					Installation Dimension (mm)					Apertur e
	W	H	H1	D	D1	W1	W2	H2	A	B	
GA350-T/S2-R75G-B-E	76	200	192	155	149	65	65	193	5.5	4	3-M4
GA350-T/S2-1R5G-B-E											
GA350-T/S2-2R2G-B-E	100	242	231	155	149	84	86.5	231.5	8	5.5	3-M4
GA350-T/S2-004G-B-E											
GA350-T/S2-5R5G-B-E	116	320	307.5	175	169	98	100	307.5	9	6	3-M5
GA350-T4-R75G-B-E	76	200	192	155	149	65	65	193	5.5	4	3-M4
GA350-T4-1R5G-B-E											
GA350-T4-2R2G-B-E											
GA350-T4-004G-B-E	100	242	231	155	149	84	86.5	231.5	8	5.5	3-M4
GA350-T4-5R5G-B-E											
GA350-T4-7R5G-B-E	116	320	307.5	175	169	98	100	307.5	9	6	3-M5
GA350-T4-011G-B-E											



Drive Model	Outer Dimension (mm)					Installation Dimension (mm)				Aperture
	W	H	H1	D	D1	W1	W2	H2	B	
GA350-T/S2-7R5G-B-E	142	383	372	225	219	125	100	372	6	4-M5
GA350-T/S2-011G-B-E										
GA350-T/S2-015G-B-E	172	430	-	225	219	150	150	416.5	7.5	4-M5
GA350-T2-018G-B-E										
GA350-T2-022G-B-E										
GA350-T4-015G-B-E	142	383	372	225	219	125	100	372	6	4-M5
GA350-T4-018G-B-E										
GA350-T4-022G-B-E										
GA350-T4-030G-B-E	172	430	-	225	219	150	150	416.5	7.5	4-M5
GA350-T4-037G-B-E										

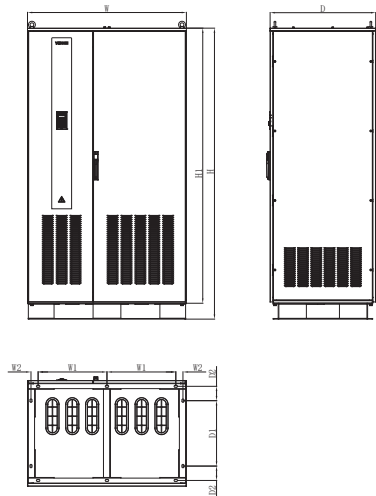
2.2 External Dimensions of AC Drive (Steel)



Drive Model	Outer Dimension				Hole Position		Aperture
	W	H	H1	D	W1	H2	
GA350-T2-030G-B-L-E	240	560	520	310	176	544	4-M6
GA350-T2-037G-B-L-E							
GA350-T2-045G-B-L-E							
GA350-T2-055G-B-L-E	270	638	580	350	195	615	4-M8
GA350-T4-045G-B-L-E	240	560	520	310	176	544	4-M6
GA350-T4-055G-B-L-E							
GA350-T4-075G-B-L-E							
GA350-T6-022G-B-E							
GA350-T6-030G-B-E							
GA350-T6-037G-B-E							
GA350-T6-045G-B-L-E							
GA350-T6-055G-B-L-E	270	638	580	350	195	615	4-M8
GA350-T6-075G-B-L-E							
GA350-T4-090G-B-L-E							
GA350-T4-110G-B-L-E							
GA350-T6-090G-B-L-E	350	738	680	405	220	715	4-M8
GA350-T6-110G-B-L-E							
GA350-T4-132G-L-E							
GA350-T4-160G-L-E							
GA350-T6-132G-L-E	350	738	680	405	220	715	4-M8
GA350-T6-160G-L-E							

GA350-T4-185G-L-E	360	940	850	480	200	910	4-M16
GA350-T4-200G-L-E							
GA350-T4-220G-L-E							
GA350-T6-185G-L-E							
GA350-T6-200G-L-E							
GA350-T6-220G-L-E							
GA350-T4-250G-L-E	370	1140	1050	545	200	1110	4-M16
GA350-T4-280G-L-E							
GA350-T6-250G-L-E							
GA350-T6-280G-L-E							
GA350-T4-315G-L-E	400	1250	1140	545	240	1213	4-M16
GA350-T4-355G-L-E							
GA350-T4-400G-L-E							
GA350-T6-315G-L-E							
GA350-T6-355G-L-E							
GA350-T6-400G-L-E							
GA350-T4-450G-L-E	460	1400	1293	545	300	1363	4-M16
GA350-T4-500G-L-E							
GA350-T4-560G-L-E							
GA350-T6-450G-L-E							
GA350-T6-500G-L-E							
GA350-T6-560G-L-E							

2.3 External Dimensions of AC Drive (Cabinet)



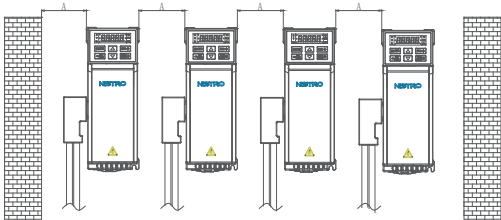
Drive Model	Outer Dimension(mm)				Hole Position (mm)				Aperture
	W	H	H1	D	W1	W2	D1	D2	
GA350-T4-630G-L	1200	2200	2080	800	520	54	494	108.5	φ14
GA350-T4-710G-L									
GA350-T4-800G-L									
GA350-T4-900G-L									
GA350-T4-1000G-L									
GA350-T4-1120G-L									
GA350-T6-630G-L									
GA350-T6-710G-L									
GA350-T6-800G-L									
GA350-T6-900G-L									
GA350-T6-1080G-L									
GA350-T6-1200G-L									

Note: The above are reference models for AC drives. And flexible configuration can be made according to actual application and the accessories described in the product catalog.

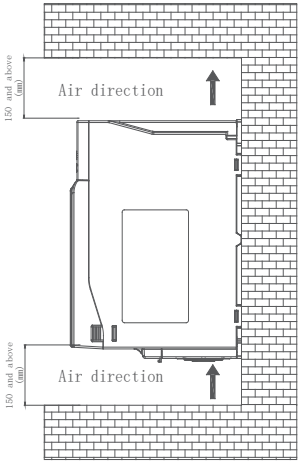
2.4 Installation Space Requirements



a. Unlimited left and right space
(no communication expansion board)

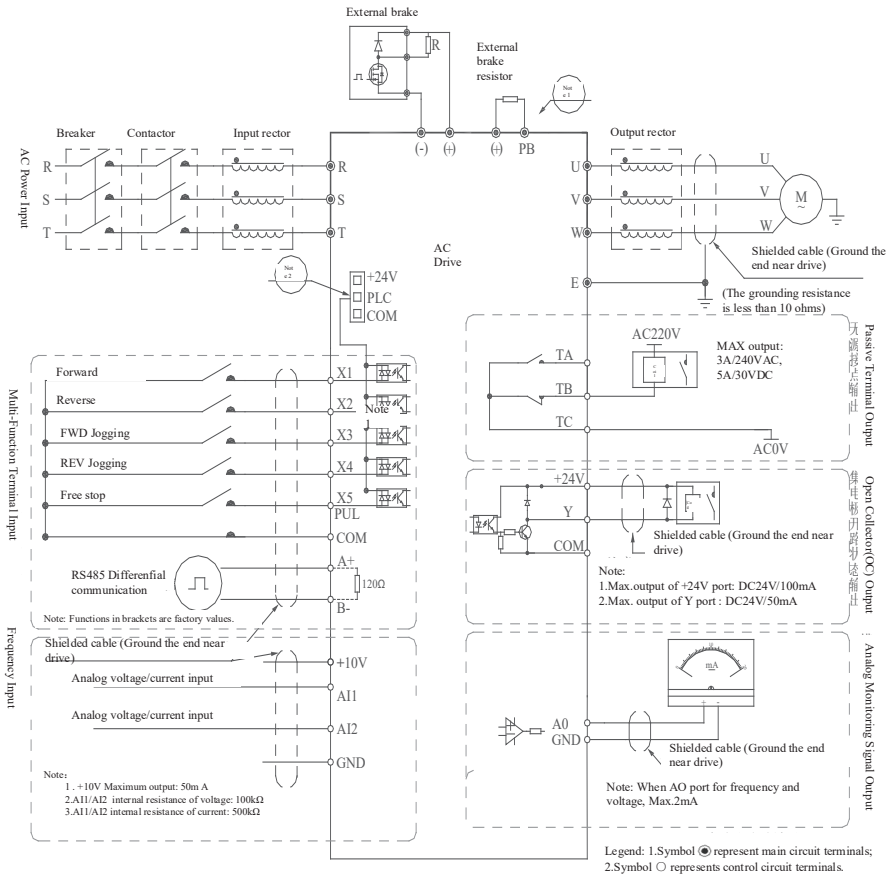


b. Parallel installation space $A \geq 50\text{mm}$ (with communication expansion board) .



Top/Bottom space

2.5 Standard Wiring



Note:

1. The DC reactor for the GA350 series is installed internally.
2. Terminals (X1~X5/PUL) can support NPN or PNP transistor signals as inputs, and the bias voltage can be selected from the internal power supply of AC drive (+24V terminal) or external power supply (PLC terminal).

2.6 Auxiliary Terminal Output Capacity

Terminal	Definition	Max. Output
+10V	10V auxiliary power output, forming a circuit with GND	50mA
AO	Analog monitoring output, forming a circuit with GND	Max. output of 2mA for voltage signals
+24V	24V auxiliary power output, looped with COM	100mA
Y	Open collector output, action object can be set in the software	DC24V/50mA
TA/TB/TC	Passive contact output, action object can be set in the software	3A/240VAC 5A/30VDC

2.7 Switch Function Legend and Description

Legend	Position	Description
RS485 OFF ☐ ON ☐ AO-F OFF ☐ ON ☐ AO-I OFF ☐ ON ☐ AO-U OFF ☐ ON ☐ AI1 U ☐ I ☐ AI2 U ☐ I ☐	RS485 terminating resistor	RS485 dialed to ON to connect to 120Ω terminating resistance
	AO-Frequency	AO-F dialed to ON for 0.0kHz~100.0kHz frequency output (voltage needs to be increased by adding external appliances, typically a 5.1kΩ resistor.)
	AO-Current	AO-I to ON to output current of 0mA~20mA or 4mA~20mA
	AO-Voltage	AO-U to ON to output voltage of 0V~10V
	AI1-Current/Voltage	AI1 to I: 0mA~20mA input; AI1 to U: 0V~10V input
	AI2-Current/Voltage	AI2 dialed to I: 0mA~20mA input; AI2 dialed to U: 0V~10V input

Chapter 3 Keypad Layout and Operation Instructions



LCD Keypad	Function
PRG/F1	Enter the function menu under standby or operation status; Press it to exit during parameter modification; Long press it(1 second) under standby or operation to enter the status interface
RUN	When Run/Stop is controlled by the keypad, press this key to make the AC drive operate in forward direction.
STOP/RESET	When the command source is the keyboard, press the key to stop the drive; Set F11.03 [Stop Key] to define other command sources valid or not; Press the key to reset the drive errors.
	Potentiometer: Rotate clockwise to increase the value, and counterclockwise to decrease it. Confirm: After modification, press it to confirm.
Left/Right 	Shift the bit to the left and right.
PRG/F2	Select the functions via F11.02 [Keypad JOG/REV Key].

Chapter 4 Parameter List

4.1 Parameter Icon

● Marks and Terms of Control Modes

Mark	Content
AMV/F	Valid parameters under V/F control for asynchronous motors
AMSVC	Valid parameters under open-loop vector control for asynchronous motors
AMFVC	Valid parameters under open-loop vector control for asynchronous motors
PMV/F	Valid parameters under V/F control for permanent magnet synchronous motors
PMSVC	Valid parameters under open-loop vector control for permanent magnet synchronous motors
PMFVC	Valid parameters under closed-loop vector control for permanent magnet synchronous motors
SynRM-SVC	Valid parameters under open-loop vector control for synchronous reluctance motors
SynRM-FVC	Valid parameters under closed-loop vector control for synchronous reluctance motors

Note: The unshaded marks mean that the parameter is invalid under certain control modes.

● Marks and Terms of Control Modes

Mark	Content
RUN	Parameters that can be modified during operation
STOP	Parameters that cannot be modified during operation
READ	Parameters that can only be read, not modified

4.2 Parameter List

● Parameter Groups

Funcode	Name	Funcode	Name
F00.0x	Environment Settings	F07.0x	Start Control
F00.1x~F00.3x	Common Parameters	F07.1x	Stop Control
F01.0x	Basic Commands	F07.2x	DC Brake and Fly Track
F01.1x	Frequency Commands	F07.3x	Jog
F01.2x~F01.3	ACC/DEC Time	F07.4x	Starting/Stopping Hold/Jump Frequency
F01.4x	PWM Control	F08.0x	Counter and Timer
F02.0x	Basic Motor Parameters and Auto-tuning	F08.3x	Swing Frequency
F02.1x	AM Advanced Parameters	F09.0x	Maintenance
F02.2x	PM Advanced Parameters	F10.0x	Current Protection
F02.3x~F02.4x	Encoder	F10.1x	Voltage Protection
F02.5x~F02.6	Motor Application	F10.2x	Auxiliary Protection
F03.0x	ASR (Auto Speed Regulator)	F10.3x	Load Protection
F03.1x	ASR (Auto Current Regulator) and Torque Limit	F10.4x	Speed Protection
F03.2x	Torque Optimization	F10.5x	Error Reset and Motor Overload Protection
F03.3x	Flux Optimization	F11.0x	Key Operation
F03.4x~F03.5x	Torque Control	F11.1x	Cyclic Monitoring of Status Interface
F03.6x	PM HF Injection	F11.2x	Keypad Display
F03.7x	Position Compensation	F11.3x	Special Keypad Functions
F03.8x	Expansions	F12.0x	Modbus Slave
F04.0x	V/F Control	F12.1x	Modbus Master
F04.1x	Self-defined V/F Curves	F12.2x	Special Modbus Functions
F04.2x	V/F Split Control	F12.3x	PROFIBUS-DP
F04.3x	V/F ECO Control	F12.4x	CANopen

F05.0x	DI Terminal	F12.5x~F12.6x	EX_A & EX_B
F05.1x	DI Terminal Action Delay	F13.00~F13.06	PID Target and Feedback
F05.2x	DI Terminal Operation	F13.07~F13.24	PID Regulation
F05.3x	PUL Terminal	F13.25 ~ F13.28	PID Feedback Disconnection
F05.4x	AI Type	F13.29~F13.33	PID Sleep
F05.5x	AI Straight Line	F14.00~F14.14	PLC Multi-frequency Operation
F05.6x	AI Curve 1	F14.15	PLC Operation Mode
F05.7x	AI Curve 2	F14.16~F14.30	PLC Stage Runtime
F05.8x	AI as DI Terminal	F14.31~F14.45	PLC Direction and ACC/DEC Time
F06.0x	AO	F15	Reserved
F06.1x	Expansion AO	F16.0x	Tension Control
F06.2x~F06.3x	DO and AO	C00.xx	Basic Monitoring
F06.4x	Frequency Detection	C01.xx	Error Monitoring
F06.5x	Monitoring Comparator	C02.xx	App Monitoring
F06.6x~F06.7x	Virtual I/O Terminals	C03.xx	Maintenance and Tension Monitoring

4.3 F00: Environmental Applications

F00.0x: Environment Settings

Funcode (Address)	Name	Content	Default (Range)	Property
F00.00 (0x0000)	Parameter Access Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the parameter access level according to access restriction. 0: Standard parameters (Fxx.yyy, Cxx.yy) 1: Common parameters (F00.00, Pxx.yyy) 2: Monitoring parameters (F00.00, Cxx.yyy) 3: Modified parameters (F00.00, Hxx.yy)	0 (0~3)	RUN
F00.01 (0x0001)	Purpose	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the AC drives for the specific purpose. 0: General 1: Fan, pump	0 (0~1)	STOP
F00.03 (0x0003)	Initialization	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the drive initialization mode. 0: Initialization OFF 11: Set parameters according to actual needs (motor parameters excl.) 22: All parameters initialized 33: Clear error records	0 (0~33)	STOP
F00.04 (0x0004)	Keypad Parameter Copy	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 11: Upload parameters to the keypad 22: Download parameters to the drive	0 (0~30)	STOP
F00.07 (0x0007)	Free Parameter 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the machine codes or purpose codes when multiple drives are used.	0 (0~65535)	RUN
F00.08 (0x0008)	Free Parameter 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the machine codes or purpose codes when multiple drives are used.	0 (0~65535)	RUN

F00.1x~F00.3x: Common Parameters

Funcode (Address)	Name	Content	Default (Range)	Property
F00.10~F00.39 (0x0010~0x0027)	Common Parameter Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~99 to yy in Fxx.yy Hundreds- and thousands-bit: Set 00~31 to xx in Fxx.yy	Up to F00.01 (0000~2999)	RUN

4.4 F01: Basic Settings

F01.0x: Basic Commands

Funcode (Address)	Name	Content	Default (Range)	Property
F01.00 (0x0100)	Motor 1 Control Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the control mode for Motor 1. AM control modes: 0: AM-V/F, V/F control 1: AM-SVC, open loop vector control, closed loop current control 2: AM-FVC, close-loop vector control PM control modes: 10: PM-V/F, V/F control 11: PM-SVC, open-loop vector control 12: PM-FVC, closed-loop vector control SynRM control modes: 16: SynRMSVC, open-loop vector control 17: SynRMFVC, close-loop vector control 18: PMaSynRMSVC, open-loop vector control 19: PMaSynRMFVC, open-loop vector control POWER: 20: V/F-SPLIT: Voltage-frequency split control Note: The V/F split function only supports for T4 models (7.5kW and above) and T2 models (5.5kW and above). Dedicated software is required for synchronous reluctance motors.	0 (0~20)	STOP
F01.01 (0x0101)	Command Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the source from which the drive receives start/stop commands and the direction of operation. 0: Keypad 1: Terminal 2: RS485 3: Expansion	0 (0~3)	RUN

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F01.1x: Frequency Commands

Funcode (Address)	Name	Content	Default (Range)	Property
F01.10 (0x010A)	Max. Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the maximum frequency for the drive.	50.00Hz (Upper limit freq~500.00Hz)	STOP
F01.11 (0x010B)	Upper Limit Frequency Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit frequency source. 0: Keypad digits 1: Keypad potentiometer 2: AI1 terminal 3: AI2 terminal 4: Reserved 5: Pulse train (PUL) 6: RS485 7: Expansion	0 (0~7)	RUN
F01.12 (0x010C)	Upper Limit Frequency (Keypad)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit frequency when F01.11 is set to 0.	50.00Hz (F01.14~Max. freq)	RUN
F01.13 (0x010D)	Lower Limit Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit frequency.	0.00Hz (0.00Hz~ Upper freq)	RUN
F01.14 (0x010E)	Frequency Command Resolution	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the frequency command resolution. 0: 0.01Hz 1: 0.1Hz 2: 0.1rpm 3: 1rpm 4: 10rpm	0 (0~4)	STOP

F01.2x~F01.3x: ACC/DEC Time

Funcode (Address)	Name	Content	Default (Range)	Property
F01.20 (0x0114)	ACC/DEC Time Reference	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the reference frequency to calculate the acceleration/ deceleration time. 0: Max. frequency 1: 50Hz 2: Frequency setting	0 (0~2)	STOP
F01.21 (0x0115)	ACC Time Unit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the unit of the acceleration time. 0: 1s 1: 0.1s 2: 0.01s	2 (0~2)	STOP
F01.22 (0x0116)	ACC Time 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to accelerate the output frequency from 0.00Hz to the base frequency. 1s~65000s (F01.21=0) 0.1s~6500.0s (F01.21=1) 0.01s~650.00s (F01.21=2)	Up to model (0.01s~ 650.00s)	RUN
F01.23 (0x0117)	DEC Time 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to decelerate the output frequency from the base frequency to 0.00Hz.	Up to model (0.01s~ 650.00s)	RUN

F01.24 (0x0118)	ACC Time 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to accelerate the output frequency from 0.00Hz to the base frequency.	Up to model (0.01s~ 650.00s)	RUN
F01.25 (0x0119)	DEC Time 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to decelerate the output frequency from the base frequency to 0.00Hz.	Up to model (0.01s~ 650.00s)	RUN
F01.26 (0x011A)	ACC Time 3	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to accelerate the output frequency from 0.00Hz to the base frequency.	Up to model (0.01s~ 650.00s)	RUN
F01.27 (0x011B)	DEC Time 3	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to decelerate the output frequency from the base frequency to 0.00Hz.	Up to model (0.01s~ 650.00s)	RUN
F01.28 (0x011C)	ACC Time 4	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to accelerate the output frequency from 0.00Hz to the base frequency.	Up to model (0.01s~ 650.00s)	RUN
F01.29 (0x011D)	DEC Time 4	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time required to decelerate the output frequency from the base frequency to 0.00Hz.	Up to model (0.01s~ 650.00s)	RUN
F01.30 (0x011E)	S-curve ACC/DEC	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the S-curve acceleration/deceleration valid or not. 0: OFF 1: ON 2: Smoother S-curve	1 (0~2)	STOP
F01.31 (0x011F)	ACC S-Curve Start Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the S-curve acceleration start time.	0.20s (0.00s~10.00s)	STOP
F01.32 (0x0120)	ACC S-Curve End Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the S-curve acceleration stop time.	0.20s (0.00s~10.00s)	STOP
F01.33 (0x0121)	DEC S-Curve Start Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the S-curve deceleration start time.	0.20s (0.00s~10.00s)	STOP
F01.34 (0x0122)	DEC S-Curve End Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the S-curve deceleration stop time.	0.20s (0.00s~10.00s)	STOP
F01.35 (0x0123)	ACC Time 1/2 Shift Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the switching frequency of ACC. time 1 and ACC. time 2.	0.00Hz (0.00Hz~ Max. freq)	RUN

F01.4x: PWM Control

Funcode (Address)	Name	Content	Default (Range)	Property
F01.40 (0x0128)	Carrier Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the switch frequency of IGBT module.	Up to model (1.0kHz~16.0kHz)	RUN
F01.41 (0x0129)	PWM Control Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Carrier-temperature correlation 0: Irrelevant 1: Relevant Tens-bit: Carrier-output frequency correlation 0: Irrelevant 1: Relevant Hundreds-bit: Random PWM 0: OFF 1: ON in V/F mode 2: ON in vector mode Thousands-bit: PWM mode 0: 3PH modulation only 1: Auto switching between 2PH/3PH modulation	1111 (0000~1211)	RUN

F01.43 (0x012B)	Deadband Compensation Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the deadband compensation gain.	306 (0~512)	RUN
F01.46 (0x012E)	Random PWM Depth	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The higher the setting, the greater the carrier fluctuation when random PWM is enabled.	0 (0~20)	RUN

4.5 F02: Motor 1 Parameters

F02.0x: Basic Motor Parameters and Auto-tuning

Funcode (Address)	Name	Content	Default (Range)	Property
F02.00 (0x0200)	Motor Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the motor type. 0: Asynchronous motor (AM) 1: Permanent magnet synchronous motor (PM) 3: Pure synchronous reluctance motor (SynRM) 5: Permanent magnet assisted synchronous reluctance motor (PMaSynRM)	0 (0~5)	READ
F02.01 (0x0201)	Motor Poles	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the motor pole number.	4 (2~98)	STOP
F02.02 (0x0202)	Motor Rated Power	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rated power of the motor.	Up to model (0.1kW~ 1000.0kW)	STOP
F02.03 (0x0203)	Motor Rated Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rated frequency of the motor.	Up to model (0.01Hz~ Max. freq)	STOP
F02.04 (0x0204)	Motor Rated Speed	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rated speed of the motor.	Up to model (0rpm~ 65000rpm)	STOP
F02.05 (0x0205)	Motor Rated Voltage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rated voltage of the motor.	Up to model (0V~2000V)	STOP
F02.06 (0x0206)	Motor Rated Current	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rated current of the motor.	Up to model (0.1A~ 3000.0A)	STOP
F02.07 (0x0207)	Motor Auto-tuning	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC After the auto-tuning is finished, F02.07 will be set to "0" automatically. 0: OFF 1: Dynamic auto-tuning 2: Static auto-tuning 3: Stator resistance auto-tuning 4~20: Reserved	0 (0~20)	STOP

Note: When F02.00 [Motor Type] is a synchronous motor, F02.04 [Motor Rated Speed] is calculated from F02.01 [Motor Poles] and F02.03 [Motor Rated Frequency], please set the corresponding parameters correctly.

The calculation formula is: $F02.04 [\text{Motor Rated Speed}] = 60 * F02.03 [\text{Motor Rated Frequency}] / (F02.01 [\text{Motor Poles}] / 2)$

F02.1x: AM Advanced Parameters

Funcode (Address)	Name	Content	Default (Range)	Property
F02.10 (0x020A)	AM No-load Current	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the no-load current of the asynchronous motor.	Up to model (0.1A~3000.0A)	STOP
F02.11 (0x020B)	AM Stator Resistance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stator resistance of the asynchronous motor.	Up to model (0.01mΩ~60000mΩ)	STOP
F02.12 (0x020C)	AM Rotor Resistance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rotor resistance of the asynchronous motor.	Up to model (0.01mΩ~60000mΩ)	STOP
F02.13 (0x020D)	AM Stator Leakage Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stator leakage inductance of the asynchronous motor.	Up to model (0.001mH~6553.5mH)	STOP
F02.14 (0x020E)	AM Stator Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stator inductance of the asynchronous motor.	Up to model (0.01mH~65535mH)	STOP
F02.15 (0x020F)	AM Per-unit Stator Resistance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of the stator resistance for the asynchronous motor.	Up to model (0.01%~50.00%)	READ
F02.16 (0x0210)	AM Per-unit Rotor Resistance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of the rotor resistance for the asynchronous motor.	Up to model (0.01%~50.00%)	READ
F02.17 (0x0211)	AM Per-unit Stator Leakage Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of the stator leakage inductance for the asynchronous motor.	Up to model (0.01%~50.00%)	READ
F02.18 (0x0212)	AM Per-unit Stator Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of the stator inductance for the asynchronous motor.	Up to model (0.1%~999.0%)	READ
F02.19 (0x0213)	F02.11~F02.14 AM Decimals	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the decimal place of the four parameters of F02.11~F02.14. Read-only.	0x0000 (0x0000~0x2222)	READ

F02.2x: PM Advanced Parameters

Funcode (Address)	Name	Content	Default (Range)	Property
F02.20 (0x0214)	PM Stator Resistance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of stator resistance for the permanent magnet synchronous motor.	Up to model (0.01mΩ~60000mΩ)	STOP
F02.21 (0x0215)	PM D-axis Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of d-axis inductance for the permanent magnet synchronous motor.	Up to model (0.001mH~6553.5mH)	STOP
F02.22 (0x0216)	PM Q-axis Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value q-axis inductance for the permanent magnet synchronous motor.	Up to model (0.001mH~6553.5mH)	STOP
F02.23 (0x0217)	PM Back Emf	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the back emf for the permanent magnet synchronous motor. It can only be identified under dynamic auto-tuning.	Up to model (0V~1500V)	STOP
F02.24 (0x0218)	PM Encoder Installation Angle	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the encoder installation angle for the permanent magnet synchronous motor.	Up to model (0.0°~360.0°)	RUN

F02.25 (0x0219)	PM Per-unit Stator Resistance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of stator resistance for the permanent magnet synchronous motor.	Up to model (Monitored values)	READ
F02.26 (0x021A)	PM Per-unit D-axis Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of d-axis inductance for the permanent magnet synchronous motor.	Up to model (Monitored values)	READ
F02.27 (0x021B)	PM Per-unit Q-axis Inductance	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the per-unit value of q-axis inductance for the permanent magnet synchronous motor.	Up to model (Monitored values)	READ
F02.28 (0x021C)	PM Pulse Width Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the pulse width coefficient for the permanent magnet synchronous motor.	Up to model (00.00~99.99)	STOP
F02.29 (0x021D)	F02.20~F02. 22 Decimals	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the decimal point of the three parameters from F02.20to F02.22. This parameter is read-only	0x0000 (0x0000~0x2222)	READ

F02.3x~F02.4x Encoder

Funcode (Address)	Name	Content	Default (Range)	Property
F02.30 (0x021E)	Encoder Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Common ABZ encoder (to EX_B) 1: Resolver (to EX_B)	0 (0~1)	STOP
F02.31 (0x021F)	Encoder Direction	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Same direction 1: Opposite direction	0 (0~1)	STOP
F02.32 (0x0220)	ABZ Encoder Z-pulse Detection	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON (forward detection) 2: ON (reverse detection)	1 (0~2)	STOP
F02.33 (0x0221)	ABZ Encoder Lines	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the line number of the ABZ encoder.	1024 (1~10000)	STOP
F02.34 (0x0222)	Resolver Pole No.	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the pole number of the resolver.	2 (2~128)	STOP
F02.35 (0x0223)	Transmission Ratio Numerator	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the transmission ratio numerator of the encoder.	1 (1~32767)	RUN
F02.36 (0x0224)	Transmission Ratio Denominator	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the transmission ratio denominator of the encoder.	1 (1~32767)	RUN
F02.37 (0x0225)	Encoder Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the speed detection filter time of the encoder.	1.0ms (0.0ms~100.0ms)	RUN
F02.38 (0x0226)	Encoder Disconnection Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the disconnection detection time of the encoder.	0.050s (0.010s~60.000s)	RUN
F02.47 (0x022F)	Z-pulse Bias	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the allowable Z-pulse bias.	0 (0~65535)	RUN
F02.48 (0x0230)	Z-pulse Tuning Current	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the value of Z-pulse tuning current.	0 (0~65535)	RUN

F02.49 (0x0231)	Encoder Debug Register	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: PG monitor under SVC 0: OFF 1: ON	0x0000 (0x0000~ 0xFFFF)	RUN
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F02.5x~F02.6x: Motor Application

Funcode (Address)	Name	Content	Default (Range)	Property
F02.50 (0x0232)	Stator Resistance Auto-tuning	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: Tune only without update >1: Tune and update	0 (0~3)	STOP
F02.51 (0x0233)	Stator Resistance Tuning Factor 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stator resistance tuning factor 1.	0 (0~1000)	RUN
F02.52 (0x0234)	Stator Resistance Tuning Factor 2	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC Set the stator resistance tuning factor 2.	0 (-20.00%~ 20.00%)	RUN
F02.53 (0x0235)	Stator Resistance Tuning Factor 3	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC Set the stator resistance tuning factor 3.	0 (0~65535)	RUN
F02.60 (0x023C)	PM Pole Search	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: FVC 0: OFF 1: ON 2: ON, but only at the first startup Tens-bit: SVC 0: OFF 1: ON 2: ON, but only at the first startup Hundreds-bit: V/F 0: OFF 1: ON 2: ON, but only at the first startup	0010 (0000~3223)	STOP
F02.61 (0x023D)	Pole Search Current	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the value of pole search current.	0.0% (0.0%~6553.5%)	STOP

4.6 F03: Vector Control

F03.0x: ASR (Auto Speed Regulator)

Funcode (Address)	Name	Content	Default (Range)	Property
F03.00 (0x0300)	ASR Rigidity Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rigidity class of the speed loop. The higher the class, the better the speed rigidity.	32 (0~128)	RUN
F03.01 (0x0301)	ASR Rigidity Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the rigidity mode of the speed loop.	0x0000 (0x0000~0xFFFF)	RUN
F03.02 (0x0302)	ASR Gain 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the proportional gain 1 of the speed loop.	10.00 (0.01~100.00)	RUN
F03.03 (0x0303)	ASR Integral Time 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the integral time 1 of the speed loop.	0.100s (0.000s~6.000s)	RUN

F03.04 (0x0304)	ASR Filter Time 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the ASR filter time 1 of the speed loop.	0.0ms (0.0ms~100.0ms)	RUN
F03.05 (0x0305)	ASR Shift Frequency 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the switching frequency 1 of the speed loop.	0.00Hz (0.00Hz~ Max. freq)	RUN
F03.06 (0x0306)	ASR Gain 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the proportional gain 2 of the speed loop.	10.00 (0.01~100.00)	RUN
F03.07 (0x0307)	ASR Integral Time 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the integral time 2 of the speed loop.	0.100s (0.000s~6.000s)	RUN
F03.08 (0x0308)	ASR Filter Time 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the ASR filter time 2 of the speed loop.	0.0ms (0.0ms~100.0ms)	RUN
F03.09 (0x0309)	ASR Shift Frequency 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the switching frequency 2 of the speed loop.	0.00Hz (0.00Hz~ Max. freq)	RUN

F03.1x: ASR (Auto Current Regulator) and Torque Limit

Funcode (Address)	Name	Content	Default (Range)	Property
F03.10 (0x030A)	ACR D-axis Proportional Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the d-axis proportional gain of the current loop.	1.000 (0.001~4.000)	RUN
F03.11 (0x030B) RUN	ACR D-axis Integral Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the d-axis proportional gain of the current loop.	1.000 (0.001~4.000)	RUN
F03.12 (0x030C)	ACR Q-axis Proportional Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the q-axis proportional gain of the current loop.	1.000 (0.001~4.000)	RUN
F03.13 (0x030D)	ACR Q-axis Integral Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the q-axis integral gain of the current loop.	1.000 (0.001~4.000)	RUN
F03.15 (0x030F)	Motoring Torque Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the torque limit during normal motor driving.	250.0% (0.0%~400.0%)	RUN
F03.16 (0x0310)	Generating Torque Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the torque limit during power generation.	250.0% (0.0%~400.0%)	RUN
F03.17 (0x0311)	Regenerative Torque Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the regenerative torque limit at low speed.	0.0% (0.0%~400.0%)	RUN
F03.18 (0x0312)	Frequency Range for Torque Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the operation frequency limited by torque at low speed.	6.00Hz (0.00Hz~30.00Hz)	RUN

F03.19 (0x0313)	Torque Limit	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC Ones-bit: Torque limit source during motoring 0: Keypad digits 1: Keypad potentiometer (on optional external single-row keypad) 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL train) 6: RS485 (0x3014) 7: Expansion Tens-bit: Torque limit source during generating 0: Keypad digits 1: Keypad potentiometer (on optional external single-row keypad) 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL train) 6: RS485 (0x3015) 7: Expansion Hundreds-bit: C00.06 display item 0: Motoring torque limit 1: Generating torque limit Thousands-bit: Reserved	0x0000 (0x0000~0x0177)	RUN
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F03.2c Torque Optimization

Funcode (Address)	Name	Content	Default (Range)	Property
F03.20 (0x0314)	PM LF Pull-in Current	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC When the PMSVC is on, the larger the pull-in current, the larger the torque output.	20.0% (0.0%~50.0%)	RUN
F03.21 (0x0315)	PM HF Pull-in Current	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC When the PMSVC is on, the larger the pull-in current, the larger the torque output.	10.0% (0.0%~50.0%)	RUN
F03.22 (0x0316)	PM Pull-in Frequency	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC This is 100.0% of F01.10 [Max. Frequency]	10.0% (0.0%~100.0%)	RUN
F03.23 (0x0317)	AM Slip Compensation	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC Set the slip compensation for the asynchronous motor.	100.0% (0.0%~250.0%)	RUN
F03.24 (0x0318)	Initial Starting Torque	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the initial starting torque.	0.0% (0.0%~250.0%)	RUN

F03.3c Flux Optimization

Funcode (Address)	Name	Content	Default (Range)	Property
F03.30 (0x031E)	Field-Weakening Feed-Forward Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the feedforward coefficient under field weakening control.	10.0% (0.0%~500.0%)	RUN
F03.31 (0x031F)	Field-weakening Control Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the field-weakening control gain.	10.0% (0.0%~500.0%)	RUN

F03.32 (0x0320)	Field-Weakening Current Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the field-weakening current upper limit.	60.0% (0.0%~250.0%)	RUN
F03.33 (0x0321)	Field-Weakening Voltage Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the field-weakening voltage coefficient.	97.0% (0.0%~120.0%)	RUN
F03.34 (0x0322)	Output Power Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the output power limit.	250.0% (0.0%~400.0%)	RUN
F03.35 (0x0323)	Over-excitation Brake Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the over-excitation brake gain.	100.0% (0.0%~500.0%)	RUN
F03.36 (0x0324)	Over-excitation Brake Range	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the over-excitation brake range.	100.0% (0.0%~250.0%)	RUN
F03.37 (0x0325)	ECO Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON	0 (0~1)	RUN
F03.38 (0x0326)	ECO Excitation Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the excitation lower limit during auto energy-saving operation.	50.0% (0.0%~80.0%)	RUN
F03.39 (0x0327)	ECO Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the filter coefficient during auto energy-saving operation.	0.010s (0.000s~6.000s)	RUN

F03.4x~F03.5x: Torque Control

Funcode (Address)	Name	Content	Default (Range)	Property
F03.40 (0x0328)	Torque Control	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Torque limited under speed control 1: Speed limited under torque control	0 (0~1)	RUN
F03.41 (0x0329)	Torque Command Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Source A Tens-bit: Source B 0: Keypad digits 1: Keypad potentiometer (on optional external single-row keypad) 2: AI1 terminal 3: AI2 terminal 4: Reserved 5: Pulse train (PUL) 6: RS485 7: Expansion 8: Reserved; 9: Via tension calculation; Hundreds-bit: Command source combination 0: Source A 1: Source B 2: Source A + Source B 3: Source A - Source B 4: Min(A, B) 5: Max(A, B)	0000 (0000~0599)	RUN
F03.42 (0x032A)	Target Torque (Keypad)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set to target torque when F03.41 is set to 0.	0.0% (0.0%~100.0%)	RUN
F03.43 (0x032B)	Torque Input Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the torque input lower limit.	0.00% (0.00%~ 100.00%)	RUN
F03.44 (0x032C)	Torque Input Lower Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F03.43.	0.00% (-250.00%~ 300.00%)	RUN

F03.45 (0x032D)	Torque Input Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the torque input upper limit.	100.00% (0.00%~ 100.00%)	RUN
F03.46 (0x032E)	Torque Input Upper Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F03.45.	100.00% (-250.00%~ 300.00%)	RUN
F03.47 (0x032F)	Torque Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the filter applied to torque references.	0.100s (0.000s~6.000s)	RUN
F03.52 (0x0334)	Torque Output Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit for torque output.	150.0% (0.0%~300.0%)	RUN
F03.53 (0x0335)	Torque Output Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit for torque output.	0.0% (0.0%~300.0%)	RUN
F03.54 (0x0336)	FWD Speed Limit (Torque Mode)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: F03.56 setting 1: Keypad potentiometer (external single-row keypad)×F03.56 2: AI1×F03.56 3: AI2×F03.56 4: Reserved 5: Pulse train (PUL)×F03.56 6: RS485×F03.56 7: Expansion×F03.56 8: Reserved	0 (0~8)	RUN
F03.55 (0x0337)	REV Speed Limit (Torque Mode)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: F03.57 setting 1: Potentiometer (external single-row keypad)×F03.57 2: AI1× F03.57 3: AI2×F03.57 4: Reserved 5: Pulse train (PUL)×F03.57 6: RS485×F03.57 7: Expansion×F03.57 8: Reserved	0 (0~8)	RUN
F03.56 (0x0338)	Max. FWD Speed (Torque Mode)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the max. forward running speed under torque mode.	100.0% (0.0%~100.0%)	RUN
F03.57 (0x0339)	Max. REV Speed (Torque Mode)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the max. reverse running speed under torque mode.	100.0% (0.0%~100.0%)	RUN
F03.58 (0x033A)	Torque Gain Shift Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the torque gain switching frequency.	1.00Hz (0.00Hz~50.00 Hz)	RUN
F03.59 (0x033B)	Torque Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the torque gain.	100.0% (0.0%~500.0%)	RUN

F03.6x: PM HF Injection

Funcode (Address)	Name	Content	Default (Range)	Property
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F03.60 (0x033C)	HF Injection Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC This is only valid under PMSVC. 0: OFF 1~5: ON, the greater the setting, the higher the injection frequency.	0 (0~5)	STOP
F03.61 (0x033D)	HF Injection Voltage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC This indicates the injection voltage relative to the motor rated voltage. This is the result of auto-tuning, so there's no need to modify it.	10.0% (0.0%~100.0%)	RUN
F03.62 (0x033E)	HF Injection Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC This indicates the injection frequency relative to the motor rated voltage, and it's valid when motor speed is lower.	10.0% (0.0%~20.0%)	RUN

F03.7x: Position Compensation

Funcode (Address)	Name	Content	Default (Range)	Property
F03.70 (0x0346)	Position Compensation Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the position compensation under speed control to realize zero servo or raise system rigidity.	50.0 (0.0~100.0)	RUN
F03.71 (0x0347)	Position Compensation Gain	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC Set the position compensation gain.	0.0 (0.0~100.0)	RUN
F03.72 (0x0348)	Position Compensation Limit	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC Set the position compensation limit.	0.0% (0.0%~100.0%)	STOP
F03.73 (0x0349)	Position Compensation Range	AMV/F AMSVC AMFVC PMFVC PMSVC PMFVC Set the position compensation working range.	10.0% (0.0%~100.0%)	STOP

F03.8x: Expansions

Funcode (Address)	Name	Content	Default (Range)	Property
F03.80 (0x0350)	PM MTPA Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the MTPA gain of the permanent magnet synchronous motor.	100.0% (0.0%~400.0%)	RUN
F03.81 (0x0351)	PM MTPA Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the MTPA filter time of the permanent magnet synchronous motor.	1.0ms (0.0ms~100.0ms)	RUN

4.7 F04: V/F Control

F04.0x V/F Control

Funcode (Address)	Name	Content	Default (Range)	Property
F04.00 (0x0400)	V/F Curve Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Select the type of V/F curve according to different load characteristics. 0: Linear V/F curve 1~9: 1.1~1.9 power V/F curves respectively 10: Square V/F curve 11: Self-defined V/F curve	0 (0~11)	STOP
F04.01 (0x0401)	Torque Boost	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0.0%: Auto 0.1%~30.0%: Manual	Up to model (0.0%~30.0%)	RUN
F04.02 (0x0402)	Torque Boost Cutoff Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the range of the torque boost function. The torque boost function will be off when the output frequency exceeds this value.	100.0% (0.0%~100.0%)	RUN
F04.03 (0x0403)	Slip Compensation Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the slip compensation gain.	0.0% (0.0%~200.0%)	RUN
F04.04 (0x0404)	Slip Compensation Range	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the slip compensation range.	100.0% (0.0%~300.0%)	RUN
F04.05 (0x0405)	Slip Compensation Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Enter the parameters on the motor's nameplate correctly for auto-tuning for best performance.	0.200s (0.000s~6.000s)	RUN
F04.06 (0x0406)	Oscillation Suppression Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set to suppress low frequency resonance. But an excessive value will cause instability.	100.0% (0.0%~900.0%)	RUN
F04.07 (0x0407)	Oscillation Suppression Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the oscillation suppression filter time.	1.0s (0.0s~100.0s)	RUN
F04.08 (0x0408)	Output Voltage Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the output voltage percentage.	100.0% (25.0%~120.0%)	STOP

F04.1x Self-defined V/F Curves

Funcode (Address)	Name	Content	Default (Range)	Property
F04.10 (0x040A)	V1 (User-defined Voltage)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined voltage 1.	3.0% (0.0%~100.0%)	STOP
F04.11 (0x040B)	F1 (User-defined Frequency)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined frequency 1.	1.00Hz (0.00Hz~ Max. freq)	STOP
F04.12 (0x040C)	V2 (User-defined Voltage)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined voltage 2.	28.0% (0.0%~100.0%)	STOP

F04.13 (0x040D)	F2 (User-defined Frequency)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined frequency 2.	10.00Hz (0.00Hz~ Max. freq)	STOP
F04.14 (0x040E)	V3 (User-defined Voltage)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined voltage 3.	55.0% (0.0%~100.0%)	STOP
F04.15 (0x040F)	F3 (User-defined Frequency)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined frequency 3.	25.00Hz (0.00Hz~ Max. freq)	STOP
F04.16 (0x0410)	V4 (User-defined Voltage)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined voltage 4.	78.0% (0.0%~100.0%)	STOP
F04.17 (0x0411)	F4 (User-defined Frequency)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined frequency 4.	37.50Hz (0.00Hz~ Max. freq)	STOP
F04.18 (0x0412)	V5 (User-defined Voltage)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined voltage 5.	100.0% (0.0%~100.0%)	STOP
F04.19 (0x0413)	F5 (User-defined Frequency)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the user-defined frequency 5.	50.00Hz (0.00Hz~ Max. freq)	STOP

F04.2x: V/F Split Control

Funcode (Address)	Name	Content	Default (Range)	Property
F04.20 (0x0414)	V/F Split Voltage Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Source A Tens-bit: Source B 0: Voltage percentage 1: Potentiometer (external single-row keypad) 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL) 6: PID 7: RS485 8: Expansion 9: Voltage value Hundreds-bit: Combination method 0: Source A 1: Source B 2: Source A+Source B 3: Source A-Source B 4: MIN(A, B) 5: MAX(A, B)	0x0000 (0x0000~ 0x0599)	RUN
F04.21 (0x0415)	V/F Split Voltage Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of V/F split operating voltage, 100.0% of the motor rated voltage.	0.00% (0.00%~ 110.00%)	RUN
F04.22 (0x0416)	V/F Split Voltage ACC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage acceleration time under V/F split control.	10.00s (0.00s~ 100.00s)	RUN

F04.23 (0x0417)	V/F Split Voltage DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage deceleration time under V/F split control.	10.00s (0.00s~ 100.00s)	RUN
F04.24 (0x0418)	V/F Split Stop Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stop mode under V/F split control. 0: Irrelevant ACC./DEC. of output voltage/output frequency 1: Output frequency drop after output voltage being 0V	0 (0~1)	RUN
F04.25 (0x0419)	V/F Split Voltage Value	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage value under V/F split control.	0.00V (0.00V~ 600.00V)	RUN

F04.3c V/F ECO Control

Funcode (Address)	Name	Content	Default (Range)	Property
F04.30 (0x041E)	V/F ECO Control Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON	0 (0~1)	STOP
F04.31 (0x041F)	V/F ECO Frequency Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the minimum frequency under V/F ECO control.	15.0Hz (0.0Hz~ 50.0Hz)	STOP
F04.32 (0x0420)	V/F ECO Voltage Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the minimum voltage under V/F ECO control.	50.0% (20.0%~ 100.0%)	STOP
F04.33 (0x0421)	V/F ECO Voltage DEC Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage deceleration rate under V/F ECO control.	0.010V/ms (0.010V/ms ~ 0.200V/ms)	RUN
F04.34 (0x0422)	V/F ECO Voltage ACC Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage accelerate rate under V/F ECO control.	0.200V/ms (0.010V/ms ~ 0.200V/ms)	RUN

4.8 F05: Input Terminal

F05.0c DI Terminal

Funcode (Address)	Name	Content	Default (Range)	Property
F05.00 (0x0500)	X1 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	1 (0~95)	STOP
F05.01 (0x0501)	X2 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	2 (0~95)	STOP
F05.02 (0x0502)	X3 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	4 (0~95)	STOP
F05.03 (0x0503)	X4 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	5 (0~95)	STOP

F05.04 (0x0504)	X5 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	6 (0~95)	STOP
F05.05 (0x0505)	X6 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	STOP
F05.06 (0x0506)	X7 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	STOP
F05.07 (0x0507)	X8 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	STOP
F05.08 (0x0508)	X9 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	STOP
F05.09 (0x0509)	X10 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	STOP

F05.1x: DI Terminal Action Delay

Funcode (Address)	Name	Content	Default (Range)	Property
F05.10 (0x050A)	X1 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X1 from OFF to ON.	0.010s (0.000s~ 6.000s)	RUN
F05.11 (0x050B)	X1 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X1 from ON to OFF.	0.010s (0.000s~ 6.000s)	RUN
F05.12 (0x050C)	X2 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X2 from OFF to ON.	0.010s (0.000s~ 6.000s)	RUN
F05.13 (0x050D)	X2 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X2 from ON to OFF.	0.010s (0.000s~ 6.000s)	RUN
F05.14 (0x050E)	X3 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X3 from OFF to ON.	0.010s (0.000s~ 6.000s)	RUN
F05.15 (0x050F)	X3 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X3 from ON to OFF.	0.010s (0.000s~ 6.000s)	RUN
F05.16 (0x0510)	X4 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X4 from OFF to ON.	0.010s (0.000s~ 6.000s)	RUN
F05.17 (0x0511)	X4 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X4 from ON to OFF.	0.010s (0.000s~ 6.000s)	RUN
F05.18 (0x0512)	X5 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X5 from OFF to ON.	0.010s (0.000s~ 6.000s)	RUN
F05.19 (0x0513)	X5 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for terminal X5 from ON to OFF.	0.010s (0.000s~ 6.000s)	RUN

F05.2c: DI Terminal Operation

Funcode (Address)	Name	Content	Default (Range)	Property
F05.20 (0x0514)	Terminal Operation Pattern	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Two-wire 1 1: Two-wire 2 2: Three-wire 1 3: Three-wire 2 Note: See Appendix II for terminal wiring.	0 (0~3)	STOP
F05.22 (0x0516)	X1~X4 Characteristics	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Valid when closed; 1: Valid when open Ones-bit: X1 Tens-bit: X2 Hundreds-bit: X3 Thousands-bit: X4	0000 (0000~1111)	RUN
F05.23 (0x0517)	X5~X8 Characteristics	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Valid when closed 1: Valid when open Ones-bit: X5 Tens-bit: X6 Hundreds-bit: X7 Thousands-bit: X8	0000 (0000~1111)	RUN
F05.24 (0x0518)	X9~X10 Characteristics	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Valid when closed 1: Valid when open Ones-bit: X9 Tens-bit: X10	0000 (0000~1111)	RUN
F05.25 (0x0519)	UP/DW Property	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Power-down save ON 1: Power-down save OFF 2: Modifiable during operation, cleared after shutdown	0 (0~2)	STOP
F05.26 (0x051A)	UP/DW ACC/DEC Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the frequency ACC/DEC rate on the UP/DW terminal.	0.50Hz/s (0.01Hz/s~50.00Hz/s)	RUN
F05.27 (0x051B)	Emergency Stop DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the deceleration time once emergency stop command is given via the terminals.	1.00s (0.01s~650.00s)	RUN

F05.3c: PUL Terminal

Funcode (Address)	Name	Content	Default (Range)	Property
F05.30 (0x051E)	PUL Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: X5 (5.00kHz max.) 1: X10 expansion (100.00kHz max.) 2: X5 (100.00kHz max.)	0 (0~2)	STOP
F05.31 (0x051F)	PUL Min. Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the min. frequency that can be accepted by the PUL terminal. If the frequency given is below this value, drive will still run at this setting.	0.000kHz (0.000kHz~500.000kHz)	RUN
F05.32 (0x0520)	PUL Min. Frequency Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.31.	0.00% (0.00%~100.00%)	RUN
F05.33 (0x0521)	PUL Max. Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the max frequency accepted by the PUL. If the frequency given is above this value, drive will still run at this setting.	50.00kHz (0.00kHz~500.00kHz)	RUN
F05.34 (0x0522)	PUL Max. Frequency Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.33.	100.00% (0.00%~100.00%)	RUN

F05.35 (0x0523)	PUL Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the size of the filter applied to the pulse signal to remove interference to the PUL terminal.	0.100s (0.000s~ 9.000s)	RUN
F05.36 (0x0524)	PUL Cutoff Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Any frequencies below this parameter are no longer recognized by the drive, and they are processed as 0Hz.	0.010kHz (0.000kHz~ 1.000kHz)	RUN

F05.4x: AI Type

Funcode (Address)	Name	Content	Default (Range)	Property
F05.41 (0x0529)	AI1 Signal Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Voltage 0.00V~10.00V 1: Current 0.00mA~20.00mA	0 (0~1)	RUN
F05.42 (0x052A)	AI2 Signal Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Voltage 0.00V~10.00V 1: Current 0.00mA~20.00mA	0 (0~1)	RUN
F05.43 (0x052B)	AI Curve	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: AI1 Tens-bit: AI2 0: Straight line (default) 1: Curve 1 2: Curve 2	0000 (0000~0022)	RUN

F05.5x: AI Straight Line

Funcode (Address)	Name	Content	Default (Range)	Property
F05.50 (0x0532)	AI1 Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the signal received at the AI1 terminal. Any voltage signals below this value is processed as this setting.	0.0% (0.0%~ 100.0%)	RUN
F05.51 (0x0533)	AI1 Lower Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.50.	0.00% (~100.00%~ 100.00%)	RUN
F05.52 (0x0534)	AI1 Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the signal received at the AI1 terminal. Any voltage signals above this value is processed as this setting.	100.0% (0.0%~ 100.0%)	RUN
F05.53 (0x0535)	AI1 Upper Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.52.	100.00% (~100.00%~ 100.00%)	RUN
F05.54 (0x0536)	AI1 Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the size of the filter applied to the analog signal to remove interfering signals.	0.100s (0.000s~ 6.000s)	RUN
F05.55 (0x0537)	AI2 Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the signal received at the AI2 terminal. Any voltage signals below this value is processed as this setting.	0.0% (0.0%~ 100.0%)	RUN
F05.56 (0x0538)	AI2 Lower Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.55.	0.00% (~100.00%~ 100.00%)	RUN
F05.57 (0x0539)	AI2 Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the signal received at the AI2 terminal. Any voltage signals below this value is processed as this setting.	100.0% (0.0%~ 100.0%)	RUN

F05.58 (0x053A)	AI2 Upper Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of the AI1 lower limit.	100.00% (-100.00%~100.00%)	RUN
F05.59 (0x053B)	AI2 Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the size of the filter applied to the analog signal to remove interfering signals.	0.100s (0.000s~6.000s)	RUN

F05.6x AI Curve 1

Funcode (Address)	Name	Content	Default (Range)	Property
F05.60 (0x053C)	Curve 1 Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit for AI Curve 1.	0.0% (0.0%~100.0%)	RUN
F05.61 (0x053D)	Curve 1 Lower Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.60.	0.00% (-100.00%~100.00%)	RUN
F05.62 (0x053E)	Curve 1 Inflection Point 1 Input Voltage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage at the curve 1 inflection point 1.	30.0% (0.0%~100.0%)	RUN
F05.63 (0x053F)	Curve 1 Inflection Point 1 Input Voltage Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.62.	30.00% (-100.00%~100.00%)	RUN
F05.64 (0x0540)	Curve 1 Inflection Point 2 Input Voltage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage at the curve 1 inflection point 2.	60.0% (0.0%~100.0%)	RUN
F05.65 (0x0541)	Curve 1 Inflection Point 2 Input Voltage Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.64.	60.00% (-100.00%~100.00%)	RUN
F05.66 (0x0542)	Curve 1 Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit for Curve 1.	100.0% (0.0%~100.0%)	RUN
F05.67 (0x0543)	Curve 1 Upper Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.66.	100.00% (-100.00%~100.00%)	RUN

F05.7x AI Curve 2

Funcode (Address)	Name	Content	Default (Range)	Property
F05.70 (0x0546)	Curve 2 Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit for AI Curve 2.	0.0% (0.0%~100.0%)	RUN
F05.71 (0x0547)	Curve 2 Lower Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.70.	0.00% (-100.00%~100.00%)	RUN

F05.72 (0x0548)	Curve 2 Inflection Point 1 Input Voltage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage at the curve 2 inflection point 1.	30.0% (0.0%~ 100.0%)	RUN
F05.73 (0x0549)	Curve 2 Inflection Point 1 Input Voltage Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.72.	30.00% (-100.00%~ 100.00%)	RUN
F05.74 (0x054A)	Curve 2 Inflection Point 2 Input Voltage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage at the curve 2 inflection point 2.	60.0% (0.0%~ 100.0%)	RUN
F05.75 (0x054B)	Curve 2 Inflection Point 2 Input Voltage Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.74.	60.00% (-100.00%~ 100.00%)	RUN
F05.76 (0x054C)	Curve 2 Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit for Curve 2.	100.00% (0.00%~ 100.0%)	RUN
F05.77 (0x054D)	Curve 2 Upper Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F05.76.	100.00% (-100.00%~ 100.00%)	RUN

F05.8x: AI as DI Terminal

Funcode (Address)	Name	Content	Default (Range)	Property
F05.80 (0x0550)	AI as DI Terminal Characteristic	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Valid at low level 1: Valid at high level Ones-bit: AI1 Tens-bit: AI2	0000 (0000~1111)	RUN
F05.81 (0x0551)	AI1 as DI Terminal Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	STOP
F05.82 (0x0552)	AI1 High Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Any value beyond this setting is processed as high level.	70.00% (0.00%~ 100.00%)	RUN
F05.83 (0x0553)	AI1 Low Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Any value below this setting is processed as low level.	30.00% (0.00%~ 100.00%)	RUN
F05.84 (0x0554)	AI2 as DI Terminal Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	STOP
F05.85 (0x0555)	AI2 High Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Any value beyond this setting is processed as high level.	70.00% (0.00%~ 100.00%)	RUN
F05.86 (0x0556)	AI2 Low Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Any value below this setting is processed as low level.	30.00% (0.00%~ 100.00%)	RUN

4.9 F06: Output Terminal

F06.0x AO

Funcode (Address)	Name	Content	Default (Range)	Property
F06.00 (0x0600)	AO Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: 0V~0V 1: 4.00mA~20.00mA 2: 0.00mA~20.00mA 3: FM high-speed pulse output	0 (0~3)	RUN
F06.01 (0x0601)	AO Item	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Target frequency 1: Output frequency 2: Output current 3: Input voltage 4: Output voltage 5: Mechanical speed 6: Target torque 7: Output torque 8: PID target 9: PID feedback 10: Output power 11: Bus voltage 12: AI1 13: AI2 14: Reserved 15: PUL input 16: Module temperature 1 17: Module temperature 2 18: RS485 input 19: VY1 function	0 (0~19)	RUN
F06.02 (0x0602)	AO Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the analog output gain from the terminals.	100.0% (0.0%~ 300.0%)	RUN
F06.03 (0x0603)	AO Bias	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the AO bias to adjust the zero point of the terminal output.	0.0% (-10.0%~ 10.0%)	RUN
F06.04 (0x0604)	AO Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the filter applied to the analog signal to remove interference.	0.010s (0.000s~ 6.000s)	RUN
F06.05 (0x0605)	AO as FM Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit when F06.00 is set to 3.	0.20kHz (0.00kHz~ 100.00kHz)	RUN
F06.06 (0x0606)	AO as FM Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit when F06.00 is set to 3.	50.00kHz (0.00kHz~ 100.00kHz)	RUN

F06.1x: Expansion AO

Funcode (Address)	Name	Content	Default (Range)	Property
F06.10 (0x060A)	Expansion AO Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: 0V~0V 1: 4.00mA~20.00mA 2: 0.00mA~20.00mA 3: Reserved	0 (0~3)	RUN
F06.11 (0x060B)	Expansion AO Item	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F06.01.	1 (0~19)	RUN
F06.12 (0x060C)	Expansion AO Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the analog output gain from the terminal expansion.	100.0% (0.0%~ 300.0%)	RUN
F06.13 (0x060D)	Expansion AO Bias	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the bias to adjust the zero point of the terminal expansion.	0.0% (-10.0%~ 10.0%)	RUN
F06.14 (0x060E)	Expansion AO Filter	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the filter applied to the analog signal to remove interference.	0.010s (0.000s~ 6.000s)	RUN

F06.2x~F06.3x: DO and RO

Funcode (Address)	Name	Content	Default (Range)	Property
F06.20 (0x0614)	Output Terminal Polarity	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Y terminal Tens-bit: Relay terminal Hundreds-bit: Y expansion terminal Thousands-bit: Relay expansion terminal 0: Positive 1: Negative	0000 (0000~1111)	RUN
F06.21 (0x0615)	Y Terminal Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	1 (0~63)	RUN
F06.22 (0x0616)	Relay Terminal Function (TA-TB-TC)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	4 (0~63)	RUN
F06.23 (0x0617)	Y Expansion Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	0 (0~63)	RUN
F06.24 (0x0618)	Relay Expansion Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	0 (0~63)	RUN
F06.25 (0x0619)	Y ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the Y terminal from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN
F06.26 (0x061A)	Relay ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the relay terminal from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN
F06.27 (0x061B)	Y Expansion ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the Y expansion from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN

F06.28 (0x061C)	Relay Expansion ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the relay expansion from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN
F06.29 (0x061D)	Y OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the Y terminal from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN
F06.30 (0x061E)	Relay OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the relay terminal from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN
F06.31 (0x061F)	Y1 Expansion OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the Y expansion from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN
F06.32 (0x0620)	Relay Expansion OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for the relay expansion from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN

F06.4x: Frequency Detection

Funcode (Address)	Name	Content	Default (Range)	Property
F06.40 (0x0628)	Frequency Detection Level 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the frequency detection level 1.	2.00Hz (0.00Hz~ Max. freq)	RUN
F06.41 (0x0629)	Frequency Detection Range 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the frequency detection range 1.	1.00Hz (0.00Hz~ Max. freq)	RUN
F06.42 (0x062A)	Frequency Detection Level 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the frequency detection level 2.	2.00Hz (0.00Hz~ Max. freq)	RUN
F06.43 (0x062B)	Frequency Detection Range 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the frequency detection range 2.	1.00Hz (0.00Hz~ Max. freq)	RUN
F06.44 (0x062C)	Frequency Arrival Range	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection range to check if the target frequency is reached.	2.00Hz (0.00Hz~ Max. freq)	RUN

F06.5x: Monitoring Comparator

Funcode (Address)	Name	Content	Default (Range)	Property
F06.50 (0x0632)	Comparator 1 Item	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0001 (0000~0763)	RUN
F06.51 (0x0633)	Comparator 1 Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the comparator 1 upper limit.	(up to F06.50)	RUN
F06.52 (0x0634)	Comparator 1 Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the comparator 1 lower limit.	(up to F06.50)	RUN

F06.53 (0x0635)	Comparator 1 Bias	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the comparator 1 bias value.	(up to F06.50)	RUN
F06.54 (0x0636)	Comparator 1 Detection/F ault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Continue operation(DO terminal only) 1: Report error and coast to stop 2: Report alarm and continue operation 3: Force stop	0 (0~3)	RUN
F06.55 (0x0637)	Comparator 2 Item	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0002 (0000~0763)	RUN
F06.56 (0x0638)	Comparator 2 Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the comparator 2 upper limit.	(up to F06.55)	RUN
F06.57 (0x0639)	Comparator 2 Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the comparator 2 lower limit.	(up to F06.55)	RUN
F06.58 (0x063A)	Comparator 2 Bias	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the comparator 2 bias value.	(up to F06.55)	RUN
F06.59 (0x063B)	Comparator 2 Detection/F ault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Continue operation (DO terminal only) 1: Report error and coast to stop 2: Report alarm and continue operation 3: Force stop	0 (0~3)	RUN

F06.6x~F06.7x: Virtual I/O Terminal

Funcode (Address)	Name	Content	Default (Range)	Property
F06.60 (0x063C)	vX1 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	RUN
F06.61 (0x063D)	vX2 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	RUN
F06.62 (0x063E)	vX3 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	RUN
F06.63 (0x063F)	vX4 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal X.	0 (0~95)	RUN
F06.64 (0x0640)	vX Status Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: By internal connection with vYn terminal 1: By physical connection with Xn terminal 2: By funcode setting Ones-bit: vX1 Tens-bit: vX2 Hundreds-bit: vX3 Thousands-bit: vX4	0000 (0000~2222)	RUN
F06.65 (0x0641)	vX Funcode Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON Ones-bit: vX1 Tens-bit: vX2 Hundreds-bit: vX3 Thousands-bit: vX4	0000 (0000~1111)	RUN
F06.66 (0x0642)	vY1 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	0 (0~63)	RUN
F06.67 (0x0643)	vY2 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	0 (0~63)	RUN

F06.68 (0x0644)	vY3 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	0 (0~63)	RUN
F06.69 (0x0645)	vY4 Function	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC See the functions of terminal Y.	0 (0~63)	RUN
F06.70 (0x0646)	vY1 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY1 terminal from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN
F06.71 (0x0647)	vY2 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY2 terminal from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN
F06.72 (0x0648)	vY3 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY3 terminal from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN
F06.73 (0x0649)	vY4 ON Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY4 terminal from OFF to ON.	0.010s (0.000s~ 60.000s)	RUN
F06.74 (0x064A)	vY1 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY1 terminal from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN
F06.75 (0x064B)	vY2 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY2 terminal from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN
F06.76 (0x064C)	vY3 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY3 terminal from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN
F06.77 (0x064D)	vY4 OFF Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time for vY4 terminal from ON to OFF.	0.010s (0.000s~ 60.000s)	RUN

4.10 F07: Start Control

F07.0x Start Control

Funcode (Address)	Name	Content	Default (Range)	Property
F07.00 (0x0700)	Start Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Start at starting frequency 1: Start from DC braking and then at starting frequency 2: Start from fly track and direction identification	0 (0~2)	STOP
F07.01 (0x0701)	Pre-excitation on Start Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Pre-excitation is valid only under AMSVC.	0.00s (0.00s~ 60.00s)	STOP
F07.02 (0x0702)	Starting Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the starting frequency so that the drive will not start but stay in standby when the target frequency is lower than this setting.	0.50Hz (0.00Hz~ F01.12)	STOP

F07.03 (0x0703)	Starting Protection	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON Ones-bit: ON when terminals under abnormal exit Tens-bit: ON when jogging terminals under abnormal exit Hundreds-bit: ON when command source switching to terminal Note: The terminal protection is enabled by default when coasting stop, emergency stop or force stop commands are valid, report A.run1~A.run3 when it's in effect.	0111 (0000~1111)	STOP
F07.05 (0x0705)	Motor Direction	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Direction inversion enable 0: OFF 1: ON Tens-bit: Direction disable 0: FWD/REV allowed 1: Only FWD allowed 2: Only REV allowed Hundreds-bit: Frequency-based direction control 0: OFF 1: ON Note: This value will not be reset during initialization. And the ones-bit value will not be changed after parameter download.	0000 (0000~1121)	STOP
F07.06 (0x0706)	Auto Power-down Restart Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: Start by fly track 2: Start as F07.00 setting	0 (0~2)	STOP
F07.07 (0x0707)	Auto Power-down Restart Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the waiting time to restart after power cut.	0.50s (0.00s~60.00s)	STOP

F07.1x: Stop Control

Funcode (Address)	Name	Content	Default (Range)	Property
F07.10 (0x070A)	Stop Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Deceleration stop 1: Coasting stop	0 (0~1)	RUN
F07.11 (0x070B)	Stopping Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC In deceleration stop mode, the drive will stop if the output frequency is lower than this setting.	0.50Hz (0.00Hz~F01.12)	RUN
F07.12 (0x070C)	Restart Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the waiting time to restart after normal shutdown.	0.00s (0.00s~60.00s)	STOP
F07.15 (0x070F)	Work Mode below Lower Limit Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Run at target frequency 1: Coasting stop and stay standby 2: Run at lower limit frequency 3: Run at zero speed	2 (0~3)	RUN
F07.16 (0x0710)	Zero-speed Torque Hold Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the torque holding factor during zero-speed operation, 100.0% of the rated drive current.	60.0% (0.0%~150.0%)	RUN
F07.17 (0x0711)	Zero-speed Torque Hold Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the holding time for zero frequency operation.	0.0s (0.0s~6000.0s)	RUN

F07.18 (0x0712)	FWD/REV Deadtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the zero-frequency holding time during FWD/REV switching.	0.0s (0.0s~120.0s)	STOP
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F07.2c: DC Brake and Fly Track

Funcode (Address)	Name	Content	Default (Range)	Property
F07.20 (0x0714)	Start Braking Current	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the braking current before startup.	60.0% (0.0%~150.0%)	STOP
F07.21 (0x0715)	Start Braking Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the braking time before startup.	0.0s (0.0s~60.0s)	STOP
F07.22 (0x0716)	DC Braking Work Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the DC braking frequency to work.	1.00Hz (0.00Hz~50.00Hz)	STOP
F07.23 (0x0717)	DC Braking Current	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The reference is the rated current of the drive, and the internal limit shall not exceed the rated current of the motor.	60.0% (0.0%~150.0%)	STOP
F07.24 (0x0718)	Stop DC Braking Hold Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the DC braking time during stop.	0.0s (0.0s~60.0s)	STOP
F07.25 (0x0719)	Fly Track Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Search mode 0: Search from max. frequency 1: Search from stop frequency Tens-bit: Search backwards 0: OFF 1: ON Hundreds-bit: Search source 0: Software 1: Hardware	0000 (0000~1111)	STOP
F07.26 (0x071A)	Fly Track Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the speed track time.	0.50s (0.00s~60.00s)	STOP
F07.27 (0x071B)	Fly Track Stop Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the speed tracking stop delay.	1.00s (0.00s~60.00s)	STOP
F07.28 (0x071C)	Fly Track Current	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the speed tracking current.	120.0% (0.0%~400.0%)	STOP

F07.3c: Jog

Funcode (Address)	Name	Content	Default (Range)	Property
F07.30 (0x071E)	Jog Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the jogging frequency.	5.00Hz (0.00Hz~Max. freq)	RUN

F07.31 (0x071F)	Jog ACC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the jogging acceleration time.	10.00s (0.00s~ 650.00s)	RUN
F07.32 (0x0720)	Jog DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the jogging deceleration time.	10.00s (0.00s~ 650.00s)	RUN
F07.33 (0x0721)	Jog S-curve Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set to enable the S-curve jogging operation. 0: OFF 1: ON	1 (0~1)	RUN
F07.34 (0x0722)	Jog Stop Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stop mode for jogging. 0: As F07.10 setting 1: Deceleration stop only	0 (0~1)	STOP

F07.4c Starting/Stopping Hold Frequency and Jump Frequency

Funcode (Address)	Name	Content	Default (Range)	Property
F07.40 (0x0728)	Starting Hold Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC This setting should be higher than the starting frequency and lower than the upper limit frequency set from the keypad.	0.50Hz (0.00Hz~ F01.12)	STOP
F07.41 (0x0729)	Starting Hold Frequency Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC This setting should be higher than the starting frequency, and if it is lower, the drive will start at starting frequency.	0.00s (0.00s~60.00 s)	STOP
F07.42 (0x072A)	Stopping Hold Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the holding frequency during stop.	0.50Hz (0.00Hz~ F01.12)	STOP
F07.43 (0x072B)	Stopping Hold Frequency Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stop hold frequency time.	0.00s (0.00s~60.00 s)	STOP
F07.44 (0x072C)	Jump Frequency 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the jump frequency 1.	0.00Hz (0.00Hz~ Max. freq)	RUN
F07.45 (0x072D)	Jump Frequency Range 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the range for jump frequency 1.	0.00Hz (0.00Hz~ Max. freq)	RUN
F07.46 (0x072E)	Jump Frequency 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the jump frequency 2.	0.00Hz (0.00Hz~ Max. freq)	RUN
F07.47 (0x072F)	Jump Frequency Range 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the range for jump frequency 2.	0.00Hz (0.00Hz~ Max. freq)	RUN

4.11 F08: Auxiliary Control

F08.0x: Counter and Timer

Funcode (Address)	Name	Content	Default (Range)	Property
F08.00 (0x0800)	Counter Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: X terminal 1: PUL terminal 2~5:Reserved	0 (0~5)	RUN
F08.01 (0x0801)	Counter Dividing	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the counting dividing factor for input.	0 (0~6000)	RUN
F08.02 (0x0802)	Counter Maximum	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the max. setting of the counter.	1000 (0~65000)	RUN
F08.03 (0x0803)	Counter Target	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the counter target value.	500 (0~65000)	RUN
F08.04 (0x0804)	Pulse No. Per Meter	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the counting value per meter.	10.0 (0.1~6553.5)	RUN
F08.05 (0x0805)	Target Length	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the target length.	1000m (0m~65535 m)	STOP
F08.06 (0x0806)	Actual Length	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the actual length.	0m (0m~65535)	STOP
F08.07 (0x0807)	Timer Unit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the unit for the timer. 0: Second(s) 1: Minute(min) 2: Hour(h)	0 (0~2)	STOP
F08.08 (0x0808)	Timer Target	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the target value of the timer.	0 (0~65000)	STOP

F08.3x: Swing Frequency

Funcode (Address)	Name	Content	Default (Range)	Property
F08.30 (0x081E)	Swing Frequency Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON	0 (0~1)	STOP
F08.31 (0x081F)	Swing Frequency Range	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Work source 0: Auto 1: Manual via terminal Tens-bit: Swing frequency reference 0: Center frequency 1: Max. frequency Hundreds-bit: Preset frequency enable 0: OFF 1: ON	0000 (0000~0111)	STOP
F08.32 (0x0820)	Preset Swing Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the preset swing frequency.	0.00Hz (0.00Hz~ Max. freq)	STOP
F08.33 (0x0821)	Preset Swing Frequency Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the preset swing frequency delay time.	0.0s (0.0s~ 3600.0s)	STOP

F08.34 (0x0822)	Swing Frequency Range	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the swing frequency range value.	10.0% (0.0%~ 50.0%)	STOP
F08.35 (0x0823)	Kick Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the kick frequency.	10.0% (0.0%~ 50.0%)	STOP
F08.36 (0x0824)	Triangular Wave Rise Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the triangular wave rise time.	5.00s (0.00s~ 650.00s)	STOP
F08.37 (0x0825)	Triangular Wave Drop Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the triangular wave drop time.	5.00s (0.00s~ 650.00s)	STOP

4.12 F09: Auxiliary Control 2

F09.0x: Maintenance

Funcode (Address)	Name	Content	Default (Range)	Property
F09.02 (0x0902)	Device Lifespan Error Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Cooling fan 0: OFF 1: ON Tens-bit: Main relay 0: OFF 1: ON Hundreds-bit: Reserved Thousands-bit: Reserved	0x0000 (0x0000~0x 1111)	RUN
F09.03 (0x0903)	Fan Lifespan	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set it to 0 when replacing with a new fan, in hour.	0 (0~65535)	STOP
F09.04 (0x0904)	Main Relay Lifespan	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set it to 0.0% when replacing with a new relay.	0.0% (0.0%~ 150.0%)	STOP

4.13 F10: Protection

F10.0x: Current Protection

Funcode (Address)	Name	Content	Default (Range)	Property
F10.00 (0x0A00)	Overcurrent Suppression Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set to auto limit the current below the setting here to prevent overcurrent errors. 0: ON 1: ON during acceleration and deceleration and OFF during constant speed	0 (0~1)	RUN
F10.01 (0x0A01)	Overcurrent Suppression Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the load current limit level, 100% of the motor rated current.	160.0% (0.0%~ 300.0%)	RUN
F10.02 (0x0A02)	Overcurrent Suppression Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the response effect of overcurrent suppression.	100.0% (0.0%~ 500.0%)	RUN

F10.03 (0x0A03)	Current Protection 1 Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the current-related protection on/off. Ones-bit: CBC enable 0: OFF 1: ON Tens-bit: OC interference suppression enable 0: OFF 1: Level 1 2: Level 2 Hundreds-bit: SC interference suppression 0: OFF 1: Level 1 2: Level 2 Thousands-bit: Reserved	0001 (0000~f22 1)	STOP
F10.04 (0x0A04)	Current Protection 2 Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Three-phase current sum protection enable 0: OFF 1: ON Tens-bit: Three-phase current imbalance protection enable 0: OFF 1: ON	0001 (0000~001 1)	STOP
F10.05 (0x0A05)	Current Imbalance Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the ratio level of the largest to the smallest among the three-phase current for current imbalance error detection.	160% (0%~500%)	STOP
F10.06 (0x0A06)	Current Imbalance Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Increase this parameter under high current fluctuation.	2.0s (0.0s~60.0s)	STOP

F10.1x: Voltage Protection

Funcode (Address)	Name	Content	Default (Range)	Property
F10.11 (0x0A0B)	Overvoltage Suppression Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC If the bus voltage is higher than this setting, acceleration and deceleration will be slowed down or canceled to prevent overvoltage errors. Ones-bit: Overvoltage suppression enable 0: OFF 1: ON Tens-bit: Overexcitation enable 0: OFF 1: ON during deceleration 2: ON during operation	0011 (0000~0021)	STOP
F10.12 (0x0A0C)	Overvoltage Suppression Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage level to trigger the overvoltage protection.	T4: 750V S2: 370V (0V~OV level) T4: 820V S2: 400V	STOP
F10.13 (0x0A0D)	Overvoltage Suppression Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the response effect of overvoltage suppression.	100.0% (0.0%~ 500.0%)	RUN

F10.14 (0x0A0E)	Dynamic Brake	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the dynamic braking on or off. 0: OFF 1: ON, with overvoltage suppression off 2: ON, with overvoltage suppression on	2 (0~2)	RUN
F10.15 (0x0A0F)	Dynamic Brake Voltage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the dynamic brake voltage level to work.	T4: 740V S2: 360V (0V~OV level) T4: 820V S2: 400V	RUN
F10.16 (0x0A10)	Undervoltage Suppression Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set to auto adjust the operation frequency when the bus voltage is lower than the undervoltage suppression level to prevent undervoltage errors. 0: OFF 1: ON	0 (0~1)	STOP
F10.17 (0x0A11)	Undervoltage Suppression Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage level to trigger the undervoltage suppression.	T4: 430V S2: 240V (0V~OV level) T4: 820V S2: 400V	STOP
F10.18 (0x0A12)	Undervoltage Suppression Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the response effect of undervoltage suppression.	100.0% (0.0%~500.0%)	RUN
F10.19 (0x0A13)	Undervoltage Error Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit voltage of the bus voltage allowed, or the drive will report undervoltage error.	T4: 320V S2: 190V (0V~OV level) T4: 820V S2: 400V	STOP

F10.2x: Auxiliary Protection

Funcode (Address)	Name	Content	Default (Range)	Property
F10.20 (0x0A14)	I/O Phase Loss Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the I/O phase loss protection function on or off. Ones-bit: Output phase loss detection enable 0: OFF 1: ON Tens-bit: Input phase detection/fault enable 0: OFF 1: ON, report A.iLF and continue operation 2: ON, report E.iLF and coasting stop Hundreds-bit: Reserved Thousands-bit: Reserved	0021 (000~1121)	STOP

F10.21 (0x0A15)	Input Phase Loss Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the voltage detection percentage for the input phase loss detection, 100% of the rated bus voltage.	10.0% (0.0%~30.0 %)	STOP
F10.22 (0x0A16)	Ground Short Circuit Protection Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the drive output and fan to ground short circuit protection on/off. Ones-bit: Output to ground short circuit protection enable 0: OFF 1: ON 2: ON before operation Tens-bit: Fan to ground short circuit protection enable 0: OFF 1: ON Tens-bit: Fan to ground short circuit protection enable 0: OFF 1: ON	0111 (0000~0112)	STOP
F10.23 (0x0A17)	Fan Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the drive fan operation mode. 0: ON after power-up 1: ON with the drive, temperature-related 2: Fan runs for F10.24 setting and stops, temperature-related	1 (0~2)	RUN
F10.24 (0x0A18)	Fan Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the time from fan stop command release to actual fan stopping.	30.00s (0.00s~ 600.00s)	STOP
F10.25 (0x0A19)	Drive Overheat Alarm Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the overheat level to report an alarm when it is above this value.	80.0°C (0.0°C~ 100.0°C)	RUN
F10.26 (0x0A1A)	Motor Overheat Protection (Expansion)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the motor overheat protection when I/O expansion is used. Ones-bit: Motor temperature sensor type 0: PT1000 1: KTY84 I/O expansion dip switch to KTY, F10.26 is valid. IO expansion dip switch to PT100, PT100 sensor is valid.	0x01 (0x00~0x01)	RUN
F10.27 (0x0A1B)	Motor Overheat Error Level (Expansion)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the overheat error level to trigger the prompt when the actual motor temperature is above this value.	110.0°C (0.0°C~ 200.0°C)	RUN
F10.28 (0x0A1C)	Motor Overheat Alarm Level (Expansion)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the overheat alarm level to trigger the prompt when the actual motor temperature is above this value.	90.0°C (0.0°C~ F10.27)	RUN

F10.3x: Load Protection

Funcode (Address)	Name	Content	Default (Range)	Property
F10.32 (0x0A20)	Load Alarm Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the load detection mode and the fault mode. Ones-bit: Load detection mode 1 0: OFF 1: Detect overload 2: Detect overload only during constant operation 3: Detect underload 4: Detect underload only during constant operation Tens-bit: Load fault mode 1 0: Report ALD1 and continue operation 1: Report ELD1 and coast to stop Hundreds-bit: Load detection mode 2 0: OFF 1: Detect overload 2: Detect overload only during constant operation 3: Detect underload 4: Detect underload only during constant operation Thousands-bit: Load fault mode 2 0: Report ALD1 and continue operation 1: Report ELD1 and coast to stop	0000 (0000~1414)	STOP
F10.33 (0x0A21)	Load Fault Level 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the load fault level 1 for detection. For V/F control, it is 100% of the rated motor current. And for vector control, it is 100% of the rated motor output torque.	130.0% (0.0%~200.0%)	STOP
F10.34 (0x0A22)	Load Fault Time 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection duration of load fault level 1. If the load is higher than the load fault level 1 for the setting here, report fault as F10.32 setting.	5.0s (0.0s~60.0s)	STOP
F10.35 (0x0A23)	Load Fault Level 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the load fault level 2 for detection. For V/F control, it is 100% of the rated motor current. And for vector control, it is 100% of the rated motor output torque.	30.0% (0.0%~200.0%)	STOP
F10.36 (0x0A24)	Load Fault Time 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection duration of load fault level 2. If the load is higher than the load fault level 2 for the setting here, report fault as F10.32 setting.	5.0s (0.0s~60.0s)	STOP

F10.4x: Speed Protection

Funcode (Address)	Name	Content	Default (Range)	Property
F10.40 (0x0A28)	Speed Deviation Detection and Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection mode and fault mode of deviation between the motor's target speed and the feedback speed. Ones-bit: Detection mode 0: OFF 1: ON only during constant operation 2: ON Tens-bit: Fault mode 0: Report error and coast to stop 1: Report alarm and continue operation	0000 (0000~0012)	STOP
F10.41 (0x0A29)	Speed Deviation Alarm Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection value for speed deviation, 100% of F01.10 [Max. Frequency].	10.0% (0.0%~60.0%)	STOP
F10.42 (0x0A2A)	Speed Deviation Alarm Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection duration of speed deviation. If the deviation between the target speed and the feedback speed is greater than F10.41 for this time, report an alarm.	2.0s (0.0s~60.0s)	STOP
F10.43 (0x0A2B)	Overspeed Detection/F ault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection mode and fault mode for overspeed. Ones-bit: Detection mode 0: OFF 1: ON only during constant operation 2: ON Tens-bit: Fault mode 0: Report error and coast to stop 1: Report alarm and continue operation	0002 (0000~0012)	STOP
F10.44 (0x0A2C)	Overspeed Fault Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the value of the overspeed fault for detection, 100% of F01.10 [Max. Frequency].	110.0% (0.0%~150.0%)	STOP
F10.45 (0x0A2D)	Overspeed Fault Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection duration of overspeed fault level. If the feedback speed is higher than F10.44 and lasts for this setting, report fault as F10.43 setting.	0.100s (0.000s~2.000s)	STOP

F10.5x: Error Reset and Motor Overload Protection

Funcode (Address)	Name	Content	Default (Range)	Property
F10.50 (0x0A32)	Auto Error Reset No.	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the number of times allowed to perform auto error reset. Note: 0 indicates that the auto reset function is disabled; otherwise, it is enabled.	0 (0~10)	STOP
F10.51 (0x0A33)	Auto Error Reset Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the delay time from an error occurrence to the auto reset.	1.0s (0.0s~100.0s)	STOP

F10.52 (0x0A34)	Performed Auto Error Reset No.	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC It indicate the number of error reset that have been performed, read-only.	0	READ
F10.55 (0x0A37)	Overload Motor Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Common motor 1: Drive-duty motor (50Hz base frequency) 2: Drive-duty motor (60Hz base frequency) 3: Motor without cooling fan	0 (0~3)	RUN
F10.56 (0x0A38)	Motor Insulation Class	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Class A 1: Class E 2: Class B 3: Class F 4: Class H 5: Special class S	3 (0~5)	STOP
F10.57 (0x0A39)	Motor Work Pattern	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0~1: S1 (continuous operation) 2: S2 3~9: S3~S9	0 (0~9)	STOP
F10.58 (0x0A3A)	Motor Overload Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the motor overload level above which the drive starts to record the overload volume.	105.0% (0.0%~ 130.0%)	STOP
F10.59 (0x0A3B)	Motor Overload Current Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Motor overload current = actual current * motor overload current coefficient	100.0% (0.0%~ 250.0%)	STOP

4.14 F11: Keypad

F11.0x: Key Operation

Funcode (Address)	Name	Content	Default (Range)	Property
F11.00 (0x0B00)	Key Lock	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: Parameter modification via keypad locked 2: Parameters and non-start/stop key locked 3: Parameters and keys locked	0 (0~3)	RUN
F11.01 (0x0B01)	Key Lock Password	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the key lock password.	0 (0~65535)	RUN
F11.02 (0x0B02)	Multi-functi on Key	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Invalid 1: REV 2: FWD jogging 3: REV jogging 4: Switch command source between keypad and terminal 5: Switch command source between keypad and communication 6: Switch command source between terminal and communication 7: Switch command source among keypad, terminal and communication cyclically	0 (0~7)	STOP
F11.03 (0x0B03)	STOP Key	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Non-keypad control OFF 1: Non-keypad stop works as stop mode 2: Non-keypad stop work as coasting stop	0 (0~2)	STOP

F11.04 (0x0B04)	UP/DW(Knob) Key	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: UP/DW key for modification 0: OFF 1: ON for F01.09 [Target Frequency] 2: ON for F13.01 [PID Target (Keypad)] 3: ON for funcode modification Tens-bit: Power-down save 0: OFF 1: ON Hundreds-bit: Modification condition 0: Modifiable during operation and stop 1: Modifiable during operation, keep during shutdown 2: Modifiable during operation, cleared after shutdown	0011 (0000~0213)	STOP
F11.05 (0x0B05)	UP/DW Key for Funcode Modification	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~99 to yy in Fxx.yy Hundreds- and thousands-bit: set 00~15 to xx in Fxx.yy	0109 (0000~2999)	RUN
F11.06 (0x0B06)	Command Key	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bits: Internal/external command keys (RUN, STOP and RESET) 0: External first, when external keys are valid, internal are invalid 1: Internal first, when internal keys are valid, external are invalid 2: Both internal and external are valid, stop/reset command first; when both forward and reverse are valid, it triggers a stop command. Tens-bit: Reserved Hundreds-bit: Reserved Thousands-bit: Reserved	0000 (0000~2122)	STOP

F11.1x: Cyclic Monitoring of Status Interface

Funcode (Address)	Name	Content	Default (Range)	Property
F11.10 (0x0B0A)	Left/Right Shift	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Left shift key to adjust the first row 0: OFF 1: ON Tens-bit: Right shift key to adjust the second row 0: OFF 1: ON When the Left/Right shift key are invalid, the monitor display value is shown as parameter 1 after re-powering up.	0011 (0000~0011)	STOP
F11.11 (0x0B0B)	1st Row Parameter 1 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0000 (0000~0763)	RUN
F11.12 (0x0B0C)	1st Row Parameter 2 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0001 (0000~0763)	RUN

F11.13 (0x0B0D)	1st Row Parameter 3 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0002 (0000~0763)	RUN
F11.14 (0x0B0E)	1st Row Parameter 4 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0011 (0000~0763)	RUN
F11.15 (0x0B0F)	2nd Row Parameter 1 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0002 (0000~0763)	RUN
F11.16 (0x0B10)	2nd Row Parameter 2 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0004 (0000~0763)	RUN
F11.17 (0x0B11)	2nd Row Parameter 3 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0010 (0000~0763)	RUN
F11.18 (0x0B12)	2nd Row Parameter 4 for Cyclic Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones- and tens-bit: Set 00~63 to yy in monitor parameter Cxx.yy. Hundreds and thousands-bit: Set 00~07 to xx in monitor parameter Cxx.yy.	0012 (0000~0763)	RUN

F11.2x: Keypad Display

Funcode (Address)	Name	Content	Default (Range)	Property
F11.20 (0x0B14)	Keypad Display Item	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Output frequency display 0: Target frequency 1: Operating frequency >=2: Target frequency, filter depth becomes larger with this value Tens-bit: Reserved Hundreds-bit: Power dimension 0: In percentage (%) 1: In kilowatt (kW) Thousands-bit: Reserved	0x0002 (0x0000~ 0x111F)	RUN
F11.21 (0x0B15)	Speed Display Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the C00.05 speed display.	100.0% (0.0%~ 500.0%)	RUN
F11.22 (0x0B16)	Power Display Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the C00.10 power display.	100.0% (0.0%~ 500.0%)	RUN

F11.23 (0x0B17)	Monitoring Parameter Group Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Reserved Tens-bit: C05 display selection 0: Auto switching with control modes 1: V/F mode related parameters 2: VC mode related parameters Hundreds-bit: C00.40~C00.63 display 0: OFF 1: ON Thousands-bit: Communication error code switching 0: OFF 1: ON	0x0000 (0x0000~ 0xFFFF)	RUN
F11.24 (0x0B18)	Monitoring Parameter Filter	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Output current display with filtering 0~F: The larger the value, the deeper the filtering	0x0002 (0x0000~ 0x000F)	RUN
F11.25 (0x0B19)	Motor Auto-tuning Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the auto-tuning process of the motor on the display. 0: OFF 1: ON	0 (0~1)	STOP
F11.27 (0x0B1B)	Error Display	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Display the error during auto reset 0: OFF 1: ON	0x0001 (0x0000~ 0x0001)	RUN

F11.3x: Special Keypad Functions

Funcode (Address)	Name	Content	Default (Range)	Property
F11.31 (0x0B1F) RUN	Potentiometer Voltage Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit voltage set via the potentiometer (valid on the optional external single-row keypad).	0.50V (0.00V~3.00V)	RUN
F11.32 (0x0B20) RUN	Potentiometer Voltage Lower Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F11.31 (valid on the optional external single-row keypad).	0.00% (0.00%~ 100.00%)	RUN
F11.33 (0x0B21) RUN	Potentiometer Upper Voltage Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit voltage set via the potentiometer (valid on the optional external single-row keypad).	2.80V (0.00V~ 3.00V)	RUN
F11.34 (0x0B22) RUN	Potentiometer Upper Voltage Limit Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of F11.33 (valid on the optional external single-row keypad).	100.00% (0.00%~ 100.00%)	RUN
F11.35 (0x0B23) STOP	Potentiometer Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the potentiometer source. 0: Reserved 1: External keypad	1 (0~1)	STOP

4.15 F12: Communication

Funcode (Address)	Name	Content	Default (Range)	Property
F12.00 (0x0C00)	Master/Slave	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Slave 1: Master	0 (0~1)	STOP
F12.01 (0x0C01)	Modbus Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the different address values for different slaves.	1 (1~247)	STOP
F12.02 (0x0C02)	Baud Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: 1200bps 1: 2400bps 2: 4800bps 3: 9600bps 4: 19200bps 5: 38400bps 6: 57600bps	3 (0~6)	STOP
F12.03 (0x0C03)	Modbus Data Format	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: (N, 8, 1) no parity, data bit: 8, stop bit: 1 1: (E, 8, 1) even parity, data bit: 8, stop bit: 1 2: (O, 8, 1) odd parity, data bit: 8, stop bit: 1 3: (N, 8, 2) no parity, data bit: 8, stop bit: 2 4: (E, 8, 2) even parity, data bit: 8, stop bit: 2 5: (O, 8, 2) odd parity, data bit: 8, stop bit: 2	0 (0~5)	STOP
F12.04 (0x0C04)	Modbus Write Response Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: ON 1: OFF	0 (0~1)	RUN
F12.05 (0x0C05)	Modbus Response Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the Modbus communication response delay time.	0ms (0ms~5000ms)	RUN
F12.06 (0x0C06)	Modbus Disconnect on Fault Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the Modbus communication fault detection duration.	1.0s (0.1s~100.0s)	RUN
F12.07 (0x0C07)	Modbus Disconnect on Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Detection OFF 1: Report error and coast to stop 2: Report alarm and continue operation 3: Force stop	0 (0~3)	RUN
F12.08 (0x0C08)	Data Bias (0x3000)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the bias to correct communication data to 0x3000.	0.00 (-100.00~100.00)	RUN
F12.09 (0x0C09)	Data Gain (0x3000)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set to perform linear correction on communication data to 0x3000.	100.0% (0.0%~500.0%)	RUN

F12.0c Modbus Slave

Funcode (Address)	Name	Content	Default (Range)	Property
F12.00 (0x0C00)	Master/Slave	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Slave 1: Master	0 (0~1)	STOP
F12.01 (0x0C01)	Modbus Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the different address values for different slaves.	1 (1~247)	STOP
F12.02 (0x0C02)	Baud Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: 1200bps 1: 2400bps 2: 4800bps 3: 9600bps 4: 19200bps 5: 38400bps 6: 57600bps	3 (0~6)	STOP
F12.03 (0x0C03)	Modbus Data Format	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: (N, 8, 1) no parity, data bit: 8, stop bit: 1 1: (E, 8, 1) even parity, data bit: 8, stop bit: 1 2: (O, 8, 1) odd parity, data bit: 8, stop bit: 1 3: (N, 8, 2) no parity, data bit: 8, stop bit: 2 4: (E, 8, 2) even parity, data bit: 8, stop bit: 2 5: (O, 8, 2) odd parity, data bit: 8, stop bit: 2	0 (0~5)	STOP
F12.04 (0x0C04)	Modbus Write Response Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: ON 1: OFF	0 (0~1)	RUN
F12.05 (0x0C05)	Modbus Response Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the Modbus communication response delay time.	0ms (0ms~5000ms)	RUN
F12.06 (0x0C06)	Modbus Disconnect on Fault Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the Modbus communication fault detection duration.	1.0s (0.1s~100.0s)	RUN
F12.07 (0x0C07)	Modbus Disconnect on Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Detection OFF 1: Report error and coasting stop 2: Report alarm and continue operation 3: Force stop	0 (0~3)	RUN
F12.08 (0x0C08)	Data Bias (0x3000)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the bias to correct communication data to 0x3000.	0.00 (-100.00~100.00)	RUN
F12.09 (0x0C09)	Data Gain (0x3000)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set to perform linear correction on communication data to 0x3000.	100.0% (0.0%~500.0%)	RUN

F12.1x: Modbus Master

Funcode (Address)	Name	Content	Default (Range)	Property
F12.10 (0x0C0A)	Cycle Parameter Transmission	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones, tens, hundreds, and thousands all can be selected with: 0: OFF 1: Start command 2: Target frequency 3: Output frequency 4: Upper limit frequency 5: Target torque 6: Output torque 7: Reserved 8: Reserved 9: PID target A: PID feedback B: Reserved C: Active current component	0x0031 (0x0000~0xCCCC)	RUN
F12.11 (0x0C0B)	User-defined Frequency Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set an address to give the frequency.	0x0000 (0x0000~0xFFFF)	RUN
F12.12 (0x0C0C)	User-defined Command Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set an address to give the command.	0x0000 (0x0000~0xFFFF)	RUN
F12.13 (0x0C0D)	FWD Command Value	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the command value for forward running.	0x0001 (0x0000~0xFFFF)	RUN
F12.14 (0x0C0E)	REV Command Value	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the command value for reverse running.	0x0002 (0x0000~0xFFFF)	RUN
F12.15 (0x0C0F)	Stop Command Value	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the command value for stop.	0x0005 (0x0000~0xFFFF)	RUN
F12.16 (0x0C10)	Reset Command Value	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the command value for reset.	0x0007 (0x0000~0xFFFF)	RUN
F12.19 (0x0C13)	Master Command Type	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the master command type. 0: Send operation command 1: Send operation status	0 (0~1)	RUN

F12.2x: Special Modbus Function

Funcode (Address)	Name	Content	Default (Range)	Property
F12.20 (0x0C14)	RJ45 Communication Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Dual-row keypad 1: Modbus slave (up to F12.2x) 2: Modbus master (up to F12.1x) 3: Customize	0 (0~3)	STOP
F12.21 (0x0C15)	RJ45 Communication Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the slave addresses when RJ45 port is for Modbus communication.	1 (1~247)	STOP

F12.22 (0x0C16)	RJ45 Baud Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the baud rate when RJ45 port is for Modbus communication. 0: 1200bps 1: 2400bps 2: 4800bps 3: 9600bps 4: 19200bps 5: 38400bps	3 (0~5)	STOP
F12.23 (0x0C17)	RJ45 Data Format	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the data format when RJ45 port is for Modbus communication. 0: (N, 8, 1) no parity, data bit: 8, stop bit: 1 1: (E, 8, 1) even parity, data bit: 8, stop bit: 1 2: (O, 8, 1) odd parity, data bit: 8, stop bit: 1 3: (N, 8, 2) no parity, data bit: 8, stop bit: 2 4: (E, 8, 2) even parity, data bit: 8, stop bit: 2 5: (O, 8, 2) odd parity, data bit: 8, stop bit: 2	0 (0~5)	STOP
F12.24 (0x0C18)	RJ45 Write Response Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the response to write operation when RJ45 port is for Modbus communication. 0: ON 1: OFF	0 (0~1)	RUN
F12.25 (0x0C19)	RJ45 Response Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the communication response delay when RJ45 port is for Modbus communication.	0ms (0ms~5000ms)	RUN
F12.26 (0x0C1A)	RJ45 Disconnection Fault Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the timeout value when RJ45 port is for Modbus communication.	1.0s (0.1s~100.0s)	RUN
F12.27 (0x0C1B)	RJ45 Disconnection /Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection and fault mode when RJ45 interface for Modbus communication is disconnected. 0: Detection off 1: Report error and coast to stop 2: Report alarm and continue operation 3: Force stop	0 (0~3)	RUN

F12.3x: PROFIBUS-DP

Funcode (Address)	Name	Content	Default (Range)	Property
F12.30 (0x0C1E)	PROFIBUS-DP Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the address for PROFIBUS-DP communication.	1 (1~247)	RUN
F12.32 (0x0C20)	PROFIBUS-DP Disconnection Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the DP master-slave communication detection and fault mode. 0: Detection OFF 1: Report error and coast to stop 2: Report alarm and continue operation	0 (0~2)	STOP

Note: Expansions are not allowed to be plugged or unplugged with power-on.

F12.4x: CANopen

Funcode (Address)	Name	Content	Default (Range)	Property
F12.40 (0x0C28)	CANopen Master/Slave	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Slave 1: Customized master	1 (0~1)	RUN
F12.41 (0x0C29)	CANopen Communication Address	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the address when CANopen communication as slave.	1 (1~247)	RUN
F12.42 (0x0C2A)	CANopen Baud Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: 20kbps 1: 50kbps 2: 100kbps 3: 125kbps 4: 250kbps 5: 500kbps 6: 1Mbps	3 (0~6)	RUN
F12.43 (0x0C2B)	CANopen Disconnection Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the CAN master-slave communication detection and fault mode. 0: Detection OFF 1: Report error and coast to stop 2: Report alarm and continue operation	0 (0~2)	RUN

Note: Expansions are not allowed to be plugged or unplugged with power-on.

F12.5x~F12.6x: EX_A & EX_B

Funcode (Address)	Name	Content	Default (Range)	Property
F12.50 (0x0C32)	EX_A/EX_B Disconnection Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: EX_A detection/fault mode 0: OFF 1: Report error and coast to stop 2: Report alarm and continue operation Tens-bit: EX_B port detection/fault mode 0: OFF 1: Report error and coast to stop 2: Report alarm and continue operation	0000 (0000~0022)	RUN
F12.51 (0x0C33)	EX_A Data Update	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Update OFF 1: Update after power on 2: EX_A restore to initial values	0 (0~2)	RUN
F12.52 (0x0C34)	EX_B Data Update	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Update OFF 1: Update after power on 2: EX_B restore to initial values	0 (0~2)	RUN
F12.53 (0x0C35)	EX_A Monitor Frame Address Group 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0001 (0000~0763)	RUN
F12.54 (0x0C36)	EX_A Monitor Frame Address Group 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0002 (0000~0763)	RUN
F12.55 (0x0C37)	EX_A Monitor Frame Address Group 3	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0007 (0000~0763)	RUN

F12.56 (0x0C38)	EX_A Monitor Frame Address Group 4	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0011 (0000~0763)	RUN
F12.57 (0x0C39)	EX_B Monitor Frame Address 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0001 (0000~0763)	RUN
F12.58 (0x0C3A)	EX_B Monitor Frame Address 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0002 (0000~0763)	RUN
F12.59 (0x0C3B)	EX_B Monitor Frame Address 3	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0007 (0000~0763)	RUN
F12.60 (0x0C3C)	EX_B Monitor Frame Address 4	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit and tens-bit: Lower 8 bits within 00~63 Hundreds-bit and thousands-bit: High 8 bits 00~07	0011 (0000~0763)	RUN

Note: Expansions are not allowed to be plugged or unplugged with power-on.

4.16 F13: PID Control

F13.00~F13.06: PID Target and Feedback

Funcode (Address)	Name	Content	Default (Range)	Property
F13.00 (0x0D00)	PID Target Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Keypad digits 1: Keypad potentiometer 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL) 6: RS485 7: Expansion 8: Terminal 9: Active current (communication)	0 (0~9)	RUN
F13.01 (0x0D01)	PID Target/Feedba ck	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID and feedback via the keypad.	50.0% (0.0%~ 100.0%)	RUN
F13.02 (0x0D02)	PID Target Change Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the change time for PID target.	1.00s (0.00s~ 60.00s)	RUN
F13.03 (0x0D03)	PID Feedback Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Keypad digits 1: Keypad potentiometer 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL) 6: RS485 7: Expansion 8: Terminal 9: Local active current	2 (0~9)	RUN
F13.04 (0x0D04)	PID Feedback Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the low-pass filter time for the PID feedback signal.	0.010s (0.000s~ 6.000s)	RUN
F13.05 (0x0D05)	PID Feedback Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the gain for the PID feedback signal.	1.00 (0.00~10.00)	RUN
F13.06 (0x0D06)	PID Feedback Signal Range	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the range for the PID feedback signal.	100.0 (0.0~100.0)	RUN

F13.07~F13.24: PID Regulation

Funcode (Address)	Name	Content	Default (Range)	Property
F13.07 (0x0D07)	PID Control Property	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Feedback characteristics 0: Positive 1: Negative Thousands-bit: Differential regulation 0: Differentiate the deviation 1: Differentiate the feedback	0100 (0000~1111)	RUN
F13.08 (0x0D08)	Preset PID Target	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID preset output.	100.0% (0.0%~100.0%)	RUN
F13.09 (0x0D09)	Preset PID Target Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID preset output runtime.	0.0s (0.0s~6500.0s)	RUN
F13.10 (0x0D0A)	PID Control Deviation Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID deviation limit.	0.0% (0.0%~100.0%)	RUN
F13.11 (0x0D0B)	Proportional Gain 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the proportional gain 1.	0.100 (0.000~4.000)	RUN
F13.12 (0x0D0C)	Integral Time 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the integral time 1.	1.0s (0.0s~600.0s)	RUN
F13.13 (0x0D0D)	Differential Gain 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the differential gain 1.	0.000s (0.000s~6.000s)	RUN
F13.14 (0x0D0E)	Proportional Gain 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the proportional gain 2.	0.100 (0.000~4.000)	RUN
F13.15 (0x0D0F)	Integral Time 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the integral time 2.	1.0s (0.0s~600.0s)	RUN
F13.16 (0x0D10)	Differential Gain 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the differential time 2.	0.000s (0.000s~6.000s)	RUN
F13.17 (0x0D11)	PID Shift Condition	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: Switch via DI terminal 2: Switch according to deviation	0 (0~2)	RUN
F13.18 (0x0D12)	PID Shift Deviation Lower Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower shift level below which gain 1 is used.	20.0% (0.0%~100.0%)	RUN
F13.19 (0x0D13)	PID Shift Deviation Upper Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper shift level above which gain 2 is used.	80.0% (0.0%~100.0%)	RUN
F13.21 (0x0D15)	Differentiation Range	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the differential range.	5.0% (0.0%~100.0%)	RUN
F13.22 (0x0D16)	PID Output Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID output upper limit.	100.0% (0.0%~100.0%)	RUN
F13.23 (0x0D17)	PID Output Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID output lower limit.	0.0% (-100.0%~F13.22)	RUN

F13.24 (0x0D18)	PID Output Filter Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID output filter time.	0.000s (0.000s~ 6.000s)	RUN
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F13.25~F13.28: PID Feedback Disconnection

Funcode (Address)	Name	Content	Default (Range)	Property
F13.25 (0x0D19)	PID Feedback Disconnection Detection/Fault Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Continue PID operation without reporting error 1: Report error and coast to stop 2: Report alarm and continue PID operation 3: Report alarm and run at current frequency	0 (0~3)	STOP
F13.26 (0x0D1A)	PID Feedback Disconnection Fault Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the detection duration for PID feedback disconnection.	1.0s (0.0s~120.0s)	RUN
F13.27 (0x0D1B)	PID Feedback Disconnection Fault Upper Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the upper limit for PID disconnection fault.	100.0% (0.0%~ 100.0%)	RUN
F13.28 (0x0D1C)	PID Feedback Disconnection Fault Lower Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the lower limit for PID disconnection fault.	0.0% (0.0%~ 100.0%)	RUN

F13.29~F13.33: PID Sleep

Funcode (Address)	Name	Content	Default (Range)	Property
F13.29 (0x0D1D)	PID Sleep Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID sleep function on or off. 0: OFF 1: ON	0 (0~1)	RUN
F13.30 (0x0D1E)	PID Sleep Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID sleep frequency.	10.00Hz (0.00Hz~ Max. freq)	RUN
F13.31 (0x0D1F)	PID Sleep Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID sleep delay time.	60.0s (0.0s~ 3600.0s)	RUN
F13.32 (0x0D20)	PID Wakeup Deviation	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the PID wakeup deviation.	5.0% (0.0%~ 50.0%)	RUN
F13.33 (0x0D21)	PID Wakeup Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the wakeup delay time.	1.0s (0.0s~60.0s)	RUN

4.17 F14: PLC Multi-frequency Operation**F14.00~F14.14: PLC Multi-frequency Operation**

Funcode (Address)	Name	Content	Default (Range)	Property
F14.00 (0x0E00)	PLC Multi-frequen cy 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 1 frequency for PLC operation.	10.00Hz (0.00Hz~ Max. freq)	RUN

F14.01 (0x0E01)	PLC Multi-frequen cy 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 2 frequency for PLC operation.	20.00Hz (0.00Hz~ Max. freq)	RUN
F14.02 (0x0E02)	PLC Multi-frequen cy 3	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 3 frequency for PLC operation.	30.00Hz (0.00Hz~ Max. freq)	RUN
F14.03 (0x0E03)	PLC Multi-frequen cy 4	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 4 frequency for PLC operation.	40.00Hz (0.00Hz~ Max. freq)	RUN
F14.04 (0x0E04)	PLC Multi-frequen cy 5	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 5 frequency for PLC operation.	50.00Hz (0.00Hz~ Max. freq)	RUN
F14.05 (0x0E05)	PLC Multi-frequen cy 6	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 6 frequency for PLC operation.	40.00Hz (0.00Hz~ Max. freq)	RUN
F14.06 (0x0E06)	PLC Multi-frequen cy 7	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 7 frequency for PLC operation.	30.00Hz (0.00Hz~ Max. freq)	RUN
F14.07 (0x0E07)	PLC Multi-frequen cy 8	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 8 frequency for PLC operation.	20.00Hz (0.00Hz~ Max. freq)	RUN
F14.08 (0x0E08)	PLC Multi-frequen cy 9	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 9 frequency for PLC operation.	10.00Hz (0.00Hz~ Max. freq)	RUN
F14.09 (0x0E09)	PLC Multi-frequen cy 10	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 10 frequency for PLC operation.	20.00Hz (0.00Hz~ Max. freq)	RUN
F14.10 (0x0E0A)	PLC Multi-frequen cy 11	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 11 frequency for PLC operation.	30.00Hz (0.00Hz~ Max. freq)	RUN
F14.11 (0x0E0B)	PLC Multi-frequen cy 12	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 12 frequency for PLC operation.	40.00Hz (0.00Hz~ Max. freq)	RUN
F14.12 (0x0E0C)	PLC Multi-frequen cy 13	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 13 frequency for PLC operation.	50.00Hz (0.00Hz~ Max. freq)	RUN
F14.13 (0x0E0D)	PLC Multi-frequen cy 14	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 14 frequency for PLC operation.	40.00Hz (0.00Hz~ Max. freq)	RUN
F14.14 (0x0E0E)	PLC Multi-frequen cy 15	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 15 frequency for PLC operation.	30.00Hz (0.00Hz~ Max. freq)	RUN

F14.15: PLC Operation Mode

Funcode (Address)	Name	Content	Default (Range)	Property
F14.15 (0x0E0F)	PLC Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Cycle mode 0: Stop after single cycle 1: Run in continuous circles 2: Keep the final value after single circle Tens-bit: Timing unit 0: Second(s) 1: Minute(min) 2: Hour(h) Tens-bit: Power-down save 0: OFF 1: ON Thousands-bit: Start mode 0: Restart from the first stage 1: Restart from the stage upon shutdown last time 2: Continue operation for the remaining of the shutdown stage	0000 (0000~2122)	RUN

F14.16~F14.30 : PLC Stage Runtime

Funcode (Address)	Name	Content	Default (Range)	Property
F14.16 (0x0E10)	PLC Multi-frequen cy 1 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 1 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.17 (0x0E11)	PLC Multi-frequen cy 2 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 2 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.18 (0x0E12)	PLC Multi-frequen cy 3 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 3 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.19 (0x0E13)	PLC Multi-frequen cy 4 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 4 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0 s/m/h)	RUN
F14.20 (0x0E14)	PLC Multi-frequen cy 5 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 5 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0 s/m/h)	RUN
F14.21 (0x0E15)	PLC Multi-frequen cy 6 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 6 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.22 (0x0E16)	PLC Multi-frequen cy 7 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 7 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.23 (0x0E17)	PLC Multi-frequen cy 8 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 8 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN

F14.24 (0x0E18)	PLC Multi-frequen cy 9 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 9 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.25 (0x0E19)	PLC Multi-frequen cy 10 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 10 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.26 (0x0E1A)	PLC Multi-frequen cy 11 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 11 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.27 (0x0E1B)	PLC Multi-frequen cy 12 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 12 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.28 (0x0E1C)	PLC Multi-frequen cy 13 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 13 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.29 (0x0E1D)	PLC Multi-frequen cy 14 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 14 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN
F14.30 (0x0E1E)	PLC Multi-frequen cy 15 Runtime	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stage 15 runtime for PLC operation.	10.0s/m/h (0.0s/m/h~ 6500.0s/m/h)	RUN

F14.31~F14.45 : PLC Direction and ACC/DEC Time

Funcode (Address)	Name	Content	Default (Range)	Property
F14.31 (0x0E1F)	PLC Multi-frequen cy 1 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Direction of the current stage (compared with command) 0: Same direction 1: Opposite direction Tens-bit: ACC/DEC time 0: ACC/DEC time 1 1: ACC/DEC time 2 2: ACC/DEC time 3 3: ACC/DEC time 4	0000 (0000~0031)	RUN
F14.32 (0x0E20)	PLC Multi-frequen cy 2 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.33 (0x0E21)	PLC Multi-frequen cy 3 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN

F14.34 (0x0E22)	PLC Multi-freque cy 4 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~003 1)	RUN
F14.35 (0x0E23)	PLC Multi-freque cy 5 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~003 1)	RUN
F14.36 (0x0E24)	PLC Multi-freque cy 6 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.37 (0x0E25)	PLC Multi-freque cy 7 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.38 (0x0E26)	PLC Multi-freque cy 8 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.39 (0x0E27)	PLC Multi-freque cy 9 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.40 (0x0E28)	PLC Multi-freque cy 10 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.41 (0x0E29)	PLC Multi-freque cy 11 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.42 (0x0E2A)	PLC Multi-freque cy 12 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.43 (0x0E2B)	PLC Multi-freque cy 13 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN

F14.44 (0x02C)	PLC Multi-fre- cy 14 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN
F14.45 (0x0E2D)	PLC Multi-fre- cy 15 Direction and ACC/DEC Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC The same as F14.31.	0000 (0000~0031)	RUN

4.18 F15: Reserved

4.19 F16: Tension Control

F16.01~F16.02: Tension Mode

Funcode (Address)	Name	Content	Default (Range)	Property
F16.01 (0x5001)	Winding Mode	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Winding 1: Unwinding 2: Select by terminal	0 (0~2)	RUN
F16.02 (0x5002)	Mechanical Transmission Ratio	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the transmission ratio between the motor and the reel.	1.00 (0.01~300.00)	RUN

F16.03~F16.09: Tension

Funcode (Address)	Name	Content	Default (Range)	Property
F16.03 (0x5003)	Tension Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Source A Tens-bit: Source B 0: Keypad digits 1: Keypad potentiometer (on optional external single-row keypad) 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL) 6: RS485 (0x300B) Hundreds-bit: Decimal place 0: 0.1 1: 1 2: 10	0x0000 (0x0000~0x 0266)	STOP
F16.04 (0x5004)	Tension Target (Keypad)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set and modify tension when F16.03 is set to 0. Motor power above 37kW has no decimal points.	0N (0N~ Max. tension)	STOP

F16.05 (0x5005)	Max. Tension	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the maximum tension limit for all sources. Motor power above 37kW has no decimal points.	1000N (0N~6000N)	STOP
F16.06 (0x5006)	Tension Taper Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the tension taper factor.	0.0% (0.0%~100.0%)	STOP
F16.07 (0x5007)	Taper Compensation Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the taper compensation factor.	0mm (0mm~10000mm)	STOP
F16.08 (0x5008)	Zero-speed Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the zero-speed threshold value.	1.00Hz (0.00Hz~50.00Hz)	RUN
F16.09 (0x5009)	Zero-speed Tension Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the tension gain during zero-speed operation.	100.0% (0.0%~500.0%)	RUN

F16.12~F16.16: Friction Compensation

Funcode (Address)	Name	Content	Default (Range)	Property
F16.12 (0x500C)	Static Friction Compensation Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the static friction compensation factor.	0.0% (0.0%~50.0%)	RUN
F16.13 (0x500D)	Static Friction Compensation Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the static friction compensation delay time.	2.0s (0.0s~60.0s)	RUN
F16.14 (0x500E)	Static Friction Compensation Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the static friction compensation cut-off frequency.	2.00Hz (0.00~Max. freq)	RUN
F16.15 (0x500F)	Sliding Friction Compensation Factor	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the sliding friction compensation factor.	0.0% (0.0%~50.0%)	RUN
F16.16 (0x5010)	Sliding Friction Compensation Limit	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the sliding friction compensation cut-off factor.	0.0% (0.0%~50.0%)	RUN

F16.30~F16.32: Material Fracture Detection

Funcode (Address)	Name	Content	Default (Range)	Property
F16.30 (0x501E)	Material Fracture Detection	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Ones-bit: Signal input source 0: OFF 1: Keypad potentiometer 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL) Tens-place: Material fracture mode 0: Report alarm and continue operation 1: Report error and coast to stop	0x0000 (0x0000~ 0x0015)	RUN
F16.31 (0x501F)	Material Fracture Level	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set material fracture threshold value for detection.	100.0% (0.0%~ 100.0%)	RUN
F16.32 (0x5020)	Material Fracture Detection Delay	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the material fracture detection delay time.	2.0s (0.1s~60.0s)	RUN

F16.36~F16.38: Pre-drive

Funcode (Address)	Name	Content	Default (Range)	Property
F16.36 (0x5024)	Pre-drive Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON (manual) 2: ON (auto)	0 (0~2)	STOP
F16.37 (0x5025)	Pre-drive Frequency Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the pre-drive frequency gain.	105.0% (0.0%~200.0 %)	STOP
F16.38 (0x5026)	Pre-drive Torque Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the pre-drive torque gain.	105.0% (0.0%~200.0 %)	STOP

F16.42~F16.43: Stop Braking

Funcode (Address)	Name	Content	Default (Range)	Property
F16.42 (0x502A)	Stop Braking Frequency	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stop braking frequency.	2.00Hz (0.01Hz~ Max. freq)	RUN
F16.43 (0x502B)	Stop Braking Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the stop braking time.	0.0s (0.0s~600.0s)	RUN

F16.44~F16.55: Roll Diameter

Funcode (Address)	Name	Content	Default (Range)	Property
F16.44 (0x502C)	Diameter Calculation Method	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Initial roll diameter without calculation 1: Calculated by linear velocity 2: Calculated by thickness 3: Reserved 4: AI1 5: AI2 6: Reserved 7: Pulse train (PUL) 8: RS485 (0x300C)	0 (0~8)	STOP
F16.45 (0x502D)	Max. Roll Diameter	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the max. roll diameter.	500mm (1mm~ 10000mm)	STOP
F16.46 (0x502E)	Roll Diameter	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the roll diameter value.	100mm (1mm~ F16.45)	STOP
F16.47 (0x502F)	Initial Roll Diameter Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: F16.48~F16.50 (terminal) 1: Reserved 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL)	0 (0~5)	STOP
F16.48 (0x5030)	Initial Roll Diameter 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the initial roll diameter 1.	100mm (1mm~ F16.45)	RUN
F16.49 (0x5031)	Initial Roll Diameter 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the initial roll diameter 2.	100mm (1mm~ F16.45)	RUN
F16.50 (0x5032)	Initial Roll Diameter 3	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the initial roll diameter 3.	100mm (1mm~ F16.45)	RUN
F16.51 (0x5033)	Roll Diameter Reset	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Manual 1: Auto	0 (0~1)	RUN
F16.54 (0x5036)	Roll Diameter Change Rate	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the roll diameter change rate limit.	10.00mm/s (0.00mm/s~ 200.00mm/s)	RUN
F16.55 (0x5037)	Roll Diameter Change Direction	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the roll diameter change direction limit.	0 (0~1)	RUN

F16.56~F16.63: Roll Diameter Calculation (Linear Velocity-based)

Funcode (Address)	Name	Content	Default (Range)	Property
F16.56 (0x5038)	Linear Velocity Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: F16.60/F16.61 (terminal) 1: Keypad digits 2: Keypad potentiometer (on optional external single-row keypad) 3: AI1 4: AI2 5: Reserved 6: Pulse train (PUL) 7: RS485 (0x300D)	0 (0~7)	RUN
F16.57 (0x5039)	Max. Linear Velocity	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the maximum linear speed limit value for all sources.	1000.0m/min (0.0m/min~ 6500.0m/min)	RUN
F16.58 (0x503A)	Linear Velocity (Keypad)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set and modify linear speed when F16.56 is set to 1.	20.0 (0.0~ F16.57)	RUN
F16.59 (0x503B)	Min. Linear Velocity for Roll Diameter Calculation	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the min. linear speed for roll diameter calculation.	2.0m/min (0.0m/min~ F16.57)	RUN
F16.60 (0x503C)	Linear Velocity Target 1	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the target linear speed 1.	20.0m/min (0.0m/min~ F16.57)	RUN
F16.61 (0x503D)	Linear Velocity Target 2	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the target linear speed 2.	20.0m/min (0.0m/min~ F16.57)	RUN
F16.63 (0x503F)	Min. Frequency for Roll Diameter Calculation	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the min. frequency for roll diameter calculation.	1.00Hz (0.00Hz~ 10.00Hz)	RUN

F16.68~ F16.70: Thickness-based Roll Diameter Calculation

Funcode (Address)	Name	Content	Default (Range)	Property
F16.68 (0x5044)	Winding Roller Pulses Per Revolution (PPR)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the number of pulses received by the winding roller for one revolution when calculating the roll diameter by thickness.	1 (1~65000)	RUN
F16.69 (0x5045)	Lap Per Layer	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the number of revolutions required for a full layer of the winding.	1 (1~10000)	RUN
F16.70 (0x5046)	Target Thickness (Keypad)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the material thickness when keypad control is valid.	0.01mm (0.01millimet ers~100.00m illimeters)	RUN

F16.75~F16.82: Tension PID Control

Funcode (Address)	Name	Content	Default (Range)	Property
F16.75 (0x504B)	Tension PID Enable	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: OFF 1: ON	0 (0~1)	STOP
F16.76 (0x504C)	Tension PID Output Reference	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Target tension 1: Max. tension	0 (0~1)	STOP
F16.77 (0x504D)	Max. Tension PID Output Percentage	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the percentage of max. tension PID output.	10.0% (0.0%~50.0%)	RUN
F16.78 (0x504E)	Tension PID Feedback Source	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC 0: Keypad digits 1: Keypad potentiometer (on optional external single-row keypad) 2: AI1 3: AI2 4: Reserved 5: Pulse train (PUL) 6: RS485(0x300E)	2 (0~6)	RUN
F16.79 (0x504F)	Tension PID Feedback Target (Keypad)	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set and modify tension PID feedback when F16.78 is set to 0.	50.0% (0.0%~100.0%)	RUN
F16.80 (0x5050)	Tension PID Feedback Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the gain for all PID feedback signals.	1.00 (0.00~10.00)	RUN
F16.81 (0x5051)	Tension PID Feedback Proportional Gain	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the tension PID proportional gain.	0.500 (0.000~8.000)	RUN
F16.82 (0x5052)	Tension PID Feedback Integral Time	AMV/F AMSVC AMFVC PMV/F PMSVC PMFVC Set the tension PID integral time.	0.5s (0.0s~600.0s)	RUN

4.20 F25: AI and AO Correction

This group of function codes and descriptions are described in detail in the corresponding technical manuals.

4.21 C0x: Monitoring**C00: Basic Monitoring**

Code (Address)	Name	Code (Address)	Name
C00.00 (0x2100)	Target Frequency	C00.20 (0x2114)	Analog Output
C00.01 (0x2101)	Output Frequency	C00.21(0x2115)	AO Expansion
C00.02(0x2102)	Output Current	C00.22 (0x2116)	Counter Target
C00.03 (0x2103)	Input Voltage	C00.23 (0x2117)	Current Runtime
C00.04 (0x2104)	Output Voltage	C00.24(0x2118)	Total Runtime
C00.05 (0x2105)	Mechanical Speed	C00.25(0x2119)	Drive Power
C00.06 (0x2106)	Target Torque	C00.26 (0x211A)	Drive Rated Voltage
C00.07 (0x2107)	Output Torque	C00.27 (0x211B)	Drive Rated Current

C00.08 (0x2108)	PID Target	C00.28 (0x211C)	Software Version
C00.09 (0x2109)	PID Feedback	C00.29 (0x211D)	PG Frequency
C00.10 (0x210A)	Output Power	C00.30 (0x211E)	Timer Target
C00.11 (0x210B)	Bus Voltage	C00.31 (0x211F)	PID Output
C00.12 (0x210C)	Module Temperature 1	C00.32 (0x2120)	Software Sub-Version
C00.13 (0x210D)	Module Temperature 2	C00.33(0x2121)	Encoder Feedback Angle
C00.14 (0x210E)	Terminal X Status*	C00.34 (0x2122)	Total Z-pulse Error
C00.15 (0x210F)	Terminal Y Status*	C00.35 (0x2123)	Z-pulse Count
C00.16 (0x2110)	AI1	C00.36 (0x2124)	Error Code
C00.17 (0x2111)	AI2 Target	C00.37 (0x2125)	Total Power Consumption (Low)
C00.18 (0x2112)	Reserved	C00.38 (0x2126)	Total Power Consumption (High)
C00.19 (0x2113)	Pulse Train Input (PUL)	C00.39 (0x2127)	Power Factor Angle

Note: For example, C00.14 is displayed as  , when terminals X1 and X2 are ON, and C00.15 is displayed as  , when terminal Y and relay are ON.

C01: Error Monitoring

Code (Address)	Name	Code (Address)	Name
C01.00 (0x2200)	Error Type	C01.12 (0x220C)	Previous 1 Error Output
C01.01 (0x2201)	Error Code	C01.13 (0x220D)	Previous 1 Error Output Voltage
C01.02 (0x2202)	Error Operation Frequency	C01.14 (0x220E)	Previous 1 Error Output Current
C01.03 (0x2203)	Error Output Voltage	C01.15 (0x220F)	Previous 1 Error Bus Voltage
C01.04 (0x2204)	Error Output Current	C01.16(0x2210)	Previous 1 Error Module
C01.05 (0x2205)	Error Bus Voltage	C01.17 (0x2211)	Previous 1 Error Drive Status
C01.06 (0x2206)	Error Module Temperature	C01.18 (0x2212)	Previous 1 Error X Terminal
C01.07 (0x2207)	Error Drive Status	C01.19 (0x2213)	Previous 1 Error Output
C01.08 (0x2208)	Error X Terminal Status	C01.20 (0x2214)	Previous 2 Error Type
C01.09 (0x2209)	Error Y Terminal Status	C01.21 (0x2215)	Previous 2 Error Code
C01.10 (0x220A)	Previous 1 Error Type	C01.22 (0x2216)	Previous 3 Error Type
C01.11 (0x220B)	Previous 1 Error Code	C01.23 (0x2217)	Previous 3 Error Code

Note: Drive error status bit meaning:

Ones-bit: Operation direction 0: FWD 1: REV

Tens-bit: Operation status 0: Stop 1: Constant operation 2: Accelerate 3: Decelerate/

Hundreds-bit: Overvoltage/overcurrent 0: Normal 1: Overvoltage 2: Overcurrent 3: Overvoltage and overcurrent

Thousands-bit: Reserved

C02: App Monitoring

Code (Address)	Name	Code (Address)	Name
C02.00 (0x2300)	PID Target	C02.17 (0x2311)~ C02.18 (0x2312)	Reserved
C02.01 (0x2301)	PID Feedback	C02.19 (0x2313)	CBC No.
C02.02 (0x2302)	PID Output	C02.20 (0x2314)~ C02.24 (0x2318)	Reserved
C02.03 (0x2303)	PID Control Status	C02.25 (0x2319)	I/O Expansion AI1
C02.05 (0x2305)	PLC Stage	C02.26 (0x231A)	I/O Expansion AI2
C02.06 (0x2306)	PLC Multi-frequency Target	C02.27 (0x231B)	I/O Expansion AI3
C02.07 (0x2307)	PLC Multi-frequency Runtime	C02.28 (0x231C)	I/O Expansion X Terminal Status
C02.08 (0x2308)	FWD/REV Command	C02.29 (0x231D)	I/O Expansion for Motor
C02.09 (0x2309)	Jogging Command	C02.30 (0x231E)	I/O Expansion Pulse Count

C02.10 (0x230A)	Voltage/Current before AI1	C02.31 (0x231F)	I/O Expansion Pulse Count
C02.11 (0x230B)	Voltage/Current before AI2 Correction	C02.32 (0x2320)~ C02.47 (0x232F)	Power-down Save Parameter 1~16
C02.12 (0x230C)	Voltage/Current before AO Correction	C02.48 (0x2330)~ C02.49 (0x2331)	Reserved
C02.13 (0x230D)	Voltage/Current before Expansion AO Correction	C02.50 (0x2332)~ C02.59 (0x233B)	Cache Register 0~9
C02.14 (0x230E)	Reserved	C02.60 (0x233C)	Expansion A Version
C02.15 (0x230F)	Drive Overload Timing Factor	C02.61 (0x233D)	Expansion B Version
C02.16 (0x2310)	Motor Overload Timing Factor	C02.62 (0x233E)	External Keypad Version

C03 : Maintenance and Tension Monitoring

Code (Address)	Name	Code(Address)	Name
C03.00 (0x2400)	Current Runtime	C03.23 (0x2417)	Current Roll Diameter
C03.01 (0x2401)	Cumulative Runtime (Hour)	C03.24 (0x2418)	Torque Target (Tension
C03.02 (0x2402)	Total Runtime (Hour)	C03.25 (0x2419)	Tension PID Target
C03.03 (0x2403)	Total Runtime (Minute)	C03.26 (0x241A)	Tension PID Feedback
C03.04 (0x2404)	Cooling Fan Runtime	C03.27 (0x241B)	Tension PID Output
C03.05 (0x2405)	Cooling Fan Lifespan	C03.28 (0x241C)	Static Friction Compensation
C03.06 (0x2406)	Reserved	C03.29 (0x241D)	Dynamic Friction
C03.07 (0x2407)	Main Relay Lifespan	C03.30 (0x241E)	Total Friction Compensation
C03.08(0x2408)~ C03.19 (0x2413)	Reserved	C03.31 (0x241F)~ C03.39 (0x2427)	Reserved (Tension Control)
C03.20 (0x2414)	Final Tension	C03.50 (0x2432)	Machine Code 1
C03.21 (0x2415)	Initial Roll Diameter	C03.51 (0x2433)	Machine Code 2
C03.22 (0x2416)	Current Linear Velocity	C03.52 (0x2434)	Machine Code 3

4.22 Terminal I/O Functions

X	Description	X	Description	X	Description
0	OFF	24	PID target1	48	Command source to
1	FWD	25	PID target2	49	Command source to
2	REV running	26	PID target3	50	Command source to communication
3	Three-wire operation	27	PID feedback1	51	Command source to
4	FWD jogging	28	PID feedback2	52	Operation disable
5	REV jogging	29	PID feedback3	53	FWD operation disable
6	Coasting stop	30	PLC operation pause	54	REV operation disable
7	Emergency stop	31	PLC operation restart	55	Reserved
8	Error reset	32	ACC/DEC time 1	56	Reserved
9	External error input	33	ACC/DEC time 2	57	Reserved
10	Frequency up (UP)	34	ACC/DEC pause	58	Reserved
11	Frequency down (DW)	35	Swing frequency	59	Reserved
12	Frequency reset	36	Swing frequency pause	60	Speed/torque control shift
13	Source A to source B	37	Swing frequency reset	61	Reserved
14	Frequency combination to source A	38	Keypad keys and display self-test	62	Jogging frequency as torque mode upper limit
15	Frequency combination	39	X5 or X10 (expansion)	63~87	Reserved

16	Multi-frequency 1	40	Timer	88	Roll diameter reset
17	Multi-frequency 2	41	Timer reset	89	Initial roll diameter1
18	Multi-frequency 3	42	Counter	90	Initial roll diameter2
19	Multi-frequency 4	43	Counter reset	91	Liner speed
20	PID control cancel	44	DC brake	92	Tension source shift
21	PID control pause	45	Pre-excitation	93	Reserved
22	PID characteristic shift	46	Reserved	94	Winding/Unwinding shift
23	PID parameter shift	47	Reserved	95	Pre-drive
Y	Description	Y	Description	Y	Description
0	OFF	14	Lower limit frequency	28	Underload alarm
1	Drive in operation	15	Program cycle completion	29	Drive alarm
2	Drive in reverse	16	Program stage	30	0x3018 in control
3	Drive in forward	17	PID feedback above	31	Drive overheat alarm
4	Trip error 1 (report during auto reset)	18	PID feedback below lower limit	32	Reserved
5	Trip error 2 (no report during auto reset)	19	PID feedback sensor disconnection	33	Reserved
6	External error stop	20	Reserved	34	Reserved
7	Drive undervoltage	21	Timer target arrival	35	Reserved
8	Drive ready operation	22	Counter maximum arrival	36	Reserved
9	Output frequency level	23	Counter target arrival	37	Comparator 1
10	Output frequency level	24	Dynamic brake	38	Comparator 2
11	Target frequency arrival	25	Reserved	39	Reserved
12	Zero-frequency running	26	Emergency stop	40~47	Expansion for industry applications
13	Upper limit frequency arrival	27	Overload alarm 1	48~63	Expansion

4.23 Error and Alarm Code List

Note: The numbers in brackets in the code column are error codes and alarm codes. (Dec indicates decimal).

Display(Dec.)	Name	Type	Display(Dec.)	Name	Type
E.SC1 (1)	System error during acceleration	Error	E.LD2 (80)	Load error 2	Error
E.SC2 (2)	System error during deceleration	Error	E.CPu (81)	CPU error	Error
E.SC3 (3)	System error during constant running	Error	E.LoC (85)	Chip lock error	Error
E.SC4 (4)	System error during stop	Error	E.EEP (86)	Parameter storage error	Error
E.oC1 (5)	Overcurrent error during acceleration	Error	E.PG (87)	PLL error	Error

E.oC2 (6)	Overcurrent error during deceleration	Error	E.buS1 (91)	EX_A disconnection error	Error
E.oC3 (7)	Overcurrent error during constant running	Error	E.buS2 (92)	EX_B disconnection error	Error
E.ou1 (9)	Overvoltage error during acceleration	Error	E.buS3 (93)	CANopen expansion error	Error
E.ou2 (10)	Overvoltage error during deceleration	Error	E.buS4 (94)	Other expansion error	Error
E.ou3 (11)	Overvoltage error during constant running	Error	E.buS5 (95)	Other expansion error	Error
E.LoC (13)	Undervoltage error during operation	Error	E.buS6 (96)	Expansion disconnection error	Error
E.oL1 (14)	Motor Overload	Error	E.CP1 (97)	Comparator 1 error	Error
E.oL2 (15)	Drive overload error 1	Error	E.CP2 (98)	Comparator 2 error	Error
E.oL3 (16)	Drive overload error 2 (CBC)	Error	E.DAT (99)	Parameter setting error	Error
E.oL4 (17)	Drive overload error 3	Error	E.FA1 (110)	Reserved for expansion 1	Error
E.iLF (18)	Input phase loss	Error	E.FA2 (111)	Reserved for expansion 2	Error
E.oLF (19)	3PH output phase loss	Error	E.FA3 (112)	Reserved for expansion 3	Error
E.oLF1 (20)	U-phase loss	Error	E.FA4 (113)	Reserved for expansion 4	Error
E.oLF2 (21)	V-phase loss	Error	E.FA5 (114)	Reserved for expansion 5	Error
E.oLF3 (22)	W-phase loss	Error	E.FA6 (115)	Reserved for expansion 6	Error
E.oH1 (30)	Rectifier overheat error	Error	E.FA7 (116)	Reserved for expansion 7	Error
E.oH2 (31)	IGBT overheat error	Error	E.FA8 (117)	Reserved for expansion 8	Error
E.oH3 (32)	Motor overheat error	Error	E.FrA (118)	Material fracture error	Error
E.EF (33)	External error input	Error	The following are the alarm codes		
E.CE (34)	Modbus communication error	Error			
E.HAL1 (35)	Large U-phase zero drift error	Error	A.Lu1 (128)	Undervoltage alarm during stop	Alarm

E.HAL2(36)	Large V-phase zero drift error	Error	A.ou (129)	Overvoltage alarm during stop	Alarm
E.HAL (37)	Non-0 current sum of three phases	Error	A.iLF (130)	Input phase loss	Alarm
E.HAL3(38)	Large W-phase zero drift error	Error	A.PiD (131)	PID feedback disconnection alarm	Alarm
E.SGxx (40)	Short circuit to ground	Error	A.EEP (132)	Parameter storage alarm	Alarm
E.FSG (41)	Fan short circuit	Error	A.DEF (133)	Speed deviation alarm	Alarm
E.PiD (42)	PID feedback disconnection alarm	Error	A.SPD (134)	Overspeed alarm	Alarm
E.CoP (43)	Parameter copy error	Error	A.GPS1 (135)	GPS lock alarm	Alarm
E.PG1(44)	PG parameter setting error	Error	A.GPS2 (136)	GPS disconnection alarm	Alarm
E.PG2 (44)	Encoder Z-pulse error	Error	A.CE (137)	Modbus disconnection alarm	Alarm
E.PG3 (44)	Resolver checksum error	Error	A.LD1 (138)	Load alarm 1	Alarm
E.PG4 (44)	Resolver disconnection error	Error	A.LD2 (139)	Load alarm 2	Alarm
E.PG5 (44)	ABZ encoder disconnection error	Error	A.buS (140)	Expansion disconnection alarm	Alarm
E.PG6 (44)	Master encoder disconnection error	Error	A.oH1 (141)	Module overheat alarm	Alarm
E.PG7 (44)	Main encoder Z-pulse deviation error	Error	A.oH3 (142)	Motor overheat alarm	Alarm
E.PG8 (44)	Encoder Z-pulse logic error	Error	A.run1 (143)	Command conflict alarm	Alarm
E.PG9 (44)	Master encoder Z-pulse logic error	Error	A.run2 (158)	Jogging terminal startup alarm	Alarm
E.PG10 (44)	Encoder Z-pulse disconnection error	Error	A.run3 (159)	Terminal startup alarm	Alarm
E.PG11 (44)	Master encoder Z-pulse disconnection error	Error	A.PA2 (144)	External keypad disconnection alarm	Alarm
E.PG12 (44)	Encoder feedback error	Error	A.CoP (145)	Parameter copy alarm	Alarm
E.PG13 (44)	Encoder hardware disconnection error	Error	A.CP1 (146)	Comparator 1 alarm	Alarm

E.bru (50)	Braking unit error	Error	A.CP2 (147)	Comparator 2 alarm	Alarm
E.TExx (52)	Motor auto-tuning error	Error	A.FA1 (150)	Reserved for expansion 1	Alarm
E.iAE1(71)	Motor angle tuning error 1	Error	A.FA2 (151)	Reserved for expansion 2	Alarm
E.iAE2(72)	Motor angle tuning error 2	Error	A.FA3 (152)	Reserved for expansion 3	Alarm
E.iAE3(73)	Motor angle tuning error 3	Error	A.FA4 (153)	Reserved for expansion 4	Alarm
E.PST1(74)	PM step loss error 1	Error	A.FA5 (154)	Reserved for expansion 5	Alarm
E.PST2(75)	PM step loss error 2	Error	A.FA6 (155)	Reserved for expansion 6	Alarm
E.PST3(76)	PM step loss error 3	Error	A.FrA (157)	Material fracture alarm	Alarm
E.DEF (77)	Speed deviation error	Error	A.161 (161)	Fan lifespan alarm	Alarm
E.SPD (78)	Overspeed error	Error	A.163 (163)	Main relay lifespan alarm	Alarm
E.LD1(79)	Load error 1	Error	-	-	-

Chapter 5 Inspection, Maintenance and Guarantees

5.1 Inspection

The drives consist of semiconductor devices, passive electronic devices, and motion devices, all of which have a service life, and even under normal operating conditions, some of the devices may change in characteristics or fail if their service life is exceeded. To prevent malfunction, preventive inspections and maintenance such as daily inspections, periodic inspections, and device replacement must be performed. It is recommended that inspections be performed every 3 to 4 months after the machine is installed.

● Daily Inspection

To avoid damage to the drive and shortening of its service life, check the following items on a daily basis.

Item	Content	Solutions
Power supply	Check whether the supply voltage meets the	Follow the instructions on the nameplate.
Surroundings	Check whether the installation environment meets	Confirm the source and handle it properly.
Cooling system	Check whether there is abnormal heating and discoloration of the drive and motor, and the working condition of the cooling fan.	Reduce the load, tighten the screws, or clean the heat sink and fan.
Motor	Check whether the motor has abnormal vibration or	Tighten mechanical and electrical connections
Load	Check whether the output current of the drive is higher than the rated value of the motor and it runs for a certain period of time.	Reduce the load or select the correct AC drive.

● Periodic Inspection

In general, it is appropriate to conduct periodic inspections every 3 to 4 months, however, please determine the actual inspection period for each machine based on its usage and working environment.

Item	Content	Solutions
Overall	Check insulation resistance & environment	Tighten/replace parts or clean the environment.
Electrical connections	- Check if the wires and connections are free of discoloration, broken insulation, cracks and signs of deterioration. - Check if the connection terminals are worn, damaged, or loose. - Check grounding	- Replace the damaged wires. - Tighten the loose terminals and replace the damaged ones. - Measure the grounding resistance and tighten the corresponding grounding terminals
Mechanical connections	Check for abnormal vibrations and noises, and loose fixing	Tighten, lubricate, and replace defective parts.
Semiconductor devices	- Check for dirt and dust - Check for visible changes in appearance	- Clean the operating environment. - Replace the damaged parts.
Electrolytic capacitor	Check for fluid leakage, discoloration, cracks, and exposed, expanded, ruptured, or leaked	Replace the damaged parts.
Peripherals	Check appearance and insulation of peripheral	Clean the environment and replace damaged
Printed circuit board	Check for odor, discoloration, and severe rust, and whether connectors are correct	- Fasten connectors - Clean the printed circuit board - Replace the damaged printed circuit board
Cooling system	- Check the cooling fan for damage and blockage - Check for dirt and dust on the cooling fin - Check that the air inlet and exhaust ports are not clogged or contaminated with foreign matter	- Clean the operating environment. - Replace the damaged parts.
Keypad	Check the cooling fan for damage and blockage	Replace the damaged parts.
Motor	Check for abnormal motor vibration or sound	Tighten mechanical and electrical connections and lubricate mechanical parts.

**CAUTION**

Do not carry out work with the power supply on, as there is a risk of electric shock and death. Do not perform wiring work while the power is on, as there is a risk of death by electric shock. Before performing wiring, inspection, maintenance, etc., disconnect the power supply to all associated equipment and make sure that the DC voltage in the main circuit has dropped to a safe level for 5 minutes.

5.2 Maintenance

All equipment and components have a service life, proper maintenance can prolong the life, but it does not fix the damage of the equipment and devices, please replace the devices according to the requirements.

Name	Lifespan	Name	Life	Name	Life
Fan	2~3 years	Electrolytic	4~5 years	Printed circuit	8~10 years

Device replacement requires maintenance techniques and product knowledge, and replaced parts must be strictly tested before actual use, so we do not recommend users to replace other internal devices. If replacement is indeed necessary, please contact the agent from whom you purchased the product or our sales department.

5.3 Product Warranty

1. If the product malfunctions during the warranty period, please see the warranty terms in the warranty card for coverage.
2. Primary troubleshooting will be carried out by your company, but the service can be provided by our company or service network for a fee at your request. If the cause of malfunction is found to be on our company, the service will be free of charge according to mutual negotiation.
3. Liability exemption, the inconvenience caused to your company or your customers due to the failure of our company products and the damage caused to the products, regardless of whether they are within the warranty period, do not belong to our company warranty.

Appendix I: Modbus Communication Protocol

• Communication Frame Structure

The communication data format is as follows:

Composition of bytes: Start bit, 8 data bits, parity bit and stop bit.

Start	Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	Bit7	Bit8	Parity	Stop bit
-------	------	------	------	------	------	------	------	------	--------	----------

The information of a frame must be transmitted in one continuous data stream, and if it is longer than 1.5 bytes of interval before the end of transmission of the entire frame, the receiving device will clear this incomplete information and incorrectly assume that the subsequent byte is the address field of the next new frame. Similarly, if the start of a new frame is shorter than 3.5 bytes interval from the previous frame, the receiving device will consider it to be the sequent part of the previous frame. The final CRC parity will be incorrect due to the misalignment of the frame, resulting in a communication error.

Standard structure of an RTU frame is shown below:

Frame header	Transmission time for 3.5 bytes
Slave address	Communication address: 0~247 in decimal (0 is the broadcast address)
Command code	03H: read slave parameters 06H: write slave parameters 08H: circuit self-detection
Data area	Parameter address, number of parameters, parameter value, etc.
CRC CHK low	Check value: 16-bit CRC value
CRC CHK high	
Frame end	Transmission time for 3.5 bytes

• Command Code and Communication Data

Take the read parameter command code as an example.

For example, if an AC drive with a slave address of 01H and a memory starting address of 2100H (check by C00.00) that reads 3 consecutive words, the framing is described as follows:

RTU master command		RTU slave response (normal)	
Slave address	01H	Slave address	01H
Command code	03H	Command code	03H
Starting address high	21H	Byte count low	06H
Starting address low	00H	Data address 2100H high	13H
Data count high	00H	Data address 2100H low	88H
Data count low	03H	Data address 2101H high	00H
CRC CHK low	0FH	Data address 2101H low	00H
CRC CHK high	F7H	Data address 2102H high	00H
-	-	Data address 2102H low	00H
-	-	CRC CHK low	C3H
-	-	CRC CHK high	C9H
-	-	RTU slave response (abnormal):	
-	-	Slave address	01H
-	-	Command code	83H
-	-	Error code	04H
-	-	CRC CHK low byte	40H
-	-	CRC CHK high	F3H

• Communication Control Address

Description	Address	Description			R/W
Target Frequency	0x3000 or 0x2000	0~50000 corresponds to 0.00Hz~500.00Hz			W/R
Target Command (Communication)	0x3000 or 0x2001	0x0000: None 0x0001: FWD 0x0002: REV 0x0003: FWD jogging 0x0004: REV jogging	0x0005: Deceleration stop 0x0006: Coasting stop 0x0007: Error reset 0x0008: Operation		W/R
Drive Status	0x3002 or 0x2002	Bit0	0: Stopping	1: Running	R
		Bit1	0:	1: Accelerating	
		Bit2	0:	1: Decelerating	
		Bit3	0: FWD	1: REV	
		Bit4	0: No error	1: Drive error	
		Bit5	0: GPRS	1: GPRS locked	
		Bit6	0: No alarm	1: Drive alarm	
Drive error code	0x3000 or 0x2003	Current error code (see error code table)			R
Communication giving upper limit frequency	0x3004 or 0x2004	0~32000 corresponds to 0.00Hz~320.00Hz			W/R
Target Torque (Communication)	0x3000 or 0x2005	0~1000 corresponds to 0.0%~100.0%			W/R
FWD Frequency Upper Limit (Torque Control)	0x3006 or 0x2006	0~1000 corresponds to 0.0%~100.0%			W/R
REV Frequency Upper Limit (Torque Control)	0x3007 or 0x2007	0~1000 corresponds to 0.0%~100.0%			W/R
PID Target (Communication)	0x3008 or 0x2008	0~1000 corresponds to 0.0%~100.0%			W/R
PID Feedback (Communication)	0x3009 or 0x2009	0~1000 corresponds to 0.0%~100.0%			W/R
Error/Alarm Code Reading	0x3010 or 0x2010	0~127 are error codes, 128 and above are alarm codes			R
Output Terminal Status	0x3018 or 0x2018	Drive output terminals externally occupied Bit0-Y Bit1-TA1-TB1-TC1 Bit2-Y expansion (I/O expansion needed) Bit3-Relay expansion (I/O expansion needed)			W
AO	0x3019 or 0x2019	0~10000 corresponds to output 0V~10V, 0mA~20mA			W

Note: For other function code addresses, please see the "Address" column in the function code list.

When the write command (06H) is used to write F00~F15, if the high half byte of the address field of function code is 0, it will be written into the RAM of drive only, and will not be stored during power down; if the high half byte of the address field of function code is 1, it will be written into EEPROM, that is to say, it will be stored during power down.

Take F00.xx as an example: 0x00xx (RAM), 0x10xx (EEPROM); F01.xx: 0x01xx (RAM), 0x11xx (EEPROM), and so are the other parameters. When reading F00~F15, the high half byte of the address can be 0, such as the read parameter F03.xx: 0x03xx.

When the write command (06H) is used to write F16~F29, if its high half byte of the address field is 5, it will be written into the RAM of drive only, and will not be stored during power down; if it is D, it will be written into EEPROM, that is to say, it will be stored during power down.

For example, parameter F16.xx: 0x50xx (RAM) 0xD0xx (EEPROM); parameter F17.xx: 0x51xx (RAM) 0xD1xx (EEPROM), and so on for parameters in other groups. When reading F16~F29, the high half byte of the address can be 5, such as the read parameter F18.xx: 0x52xx.

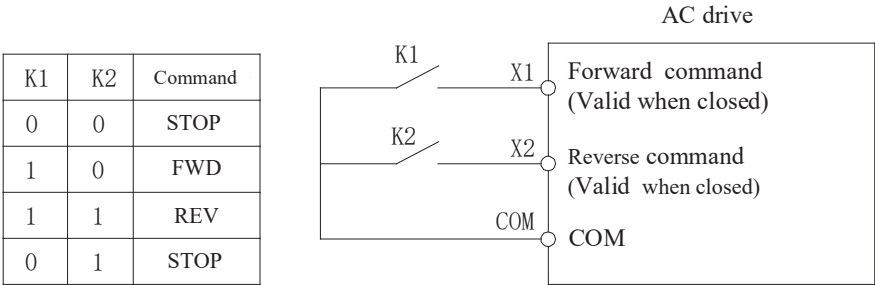
• Slave Errors

No.	Description	No.	Description	No.	Description
1	Command code error	3	CRC parity error	4	Illegal address
5	Illegal data	6	Parameters not	8	Drive busy (saving to EEPROM)
9	Parameter over range	10	Reserved	11	Error in reading parameter

Appendix II: Terminal Wiring Methods

0: Two-wire Control 1

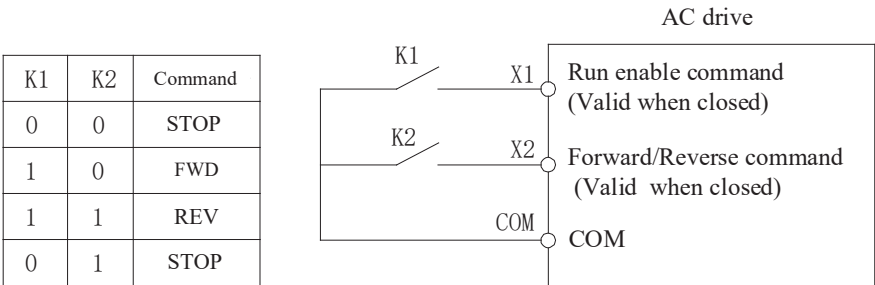
Operation and direction are set at the same time. Two-wire mode is the most commonly mode. The default is that the X1 for forward running and X2 for reverse running, as shown below:



0: Two-wire control 1

1: Two-wire Control 2

Operation and direction are separated. In this mode, X1 is used to enable motor operation, while the direction is defined by X2, as shown below:

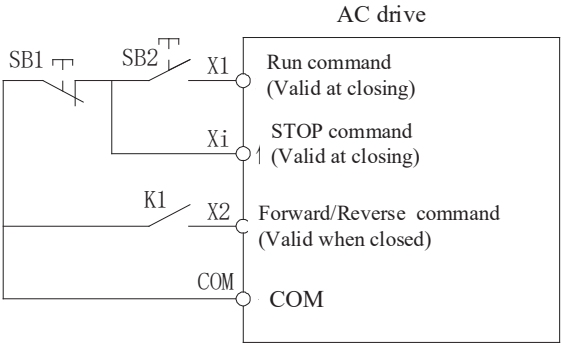


1: Two-wire control 2

2: Three-wire Control 1

Xi terminal in this mode is the stop terminal, the operation is controlled by X1 and the direction is controlled by X2. Input to Xi terminal in the three-wire control is valid.

K1	Direction
0	FWD
1	REV

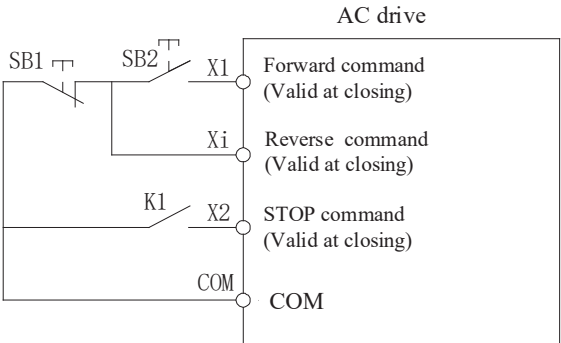


2:Three-wire control 1

3: Three-wire Control 2

Xi terminal in this mode is the stop terminal, the operation is controlled by X1 or X2, and they both control the direction.

K1	Direction
0	FWD
1	REV

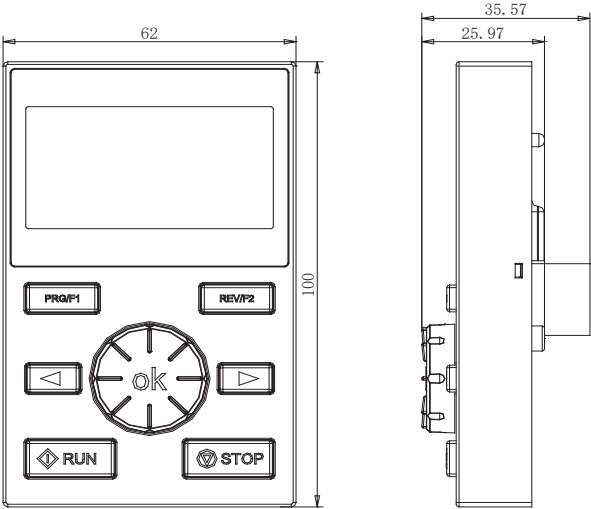


3: Three-wire control 2

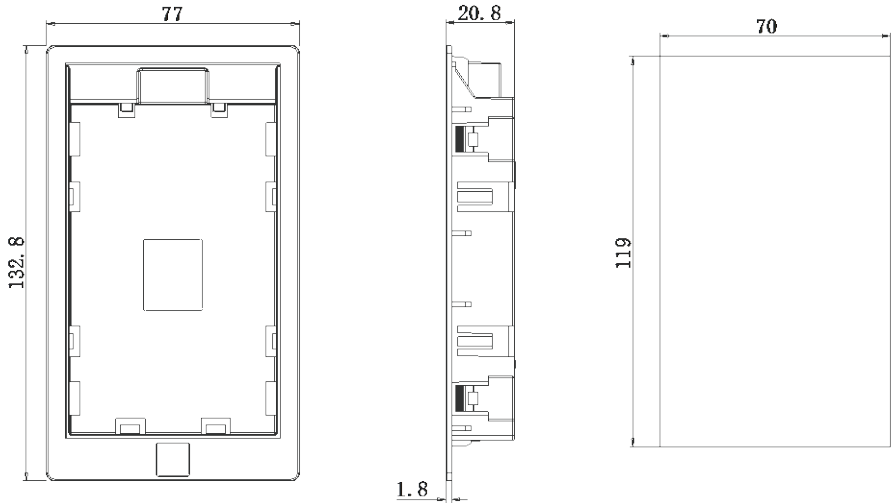
Note: SB1: Stop; SB2: Forward operation; SB3: Reverse operation; For "Xi" terminal, set the multifunction input terminal to 3: [3-wire control (Xi)].

Appendix III: External LCD Keypad Dimensions

• External Single-row Keypad and Opening Dimensions (mm)



GA350 External Dual-row Keypad Dimensions



GA350 Pocket and Opening Dimensions

Version Change Log

Date	Version	Content
2026.01	V1.0	First version released

