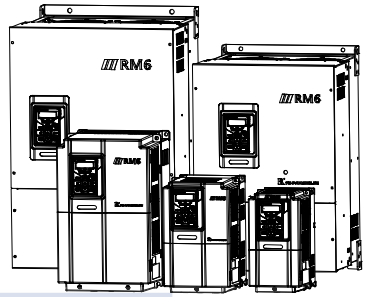
HCP HCP PUMP

RHYMEBUS

RM6F6 Series Parameter Manual



XB200241 2024.11.15 Edition

Thank you for using RHYMEBUS RM6F6 series drive.
For proper operations and safety purposes, please read manual carefully.
Only the qualified personnel may proceed with the installation.
Scan the QR code on the right side for the complete operation manual.
Please pay attention to the safety precautions marked with “DANGER” or “CAUTION” in complete manual before installation.

DANGER	User may cause the casualty or serious damages if user does not abide by the instructions of the manual to execute the tasks.
CAUTION	User may cause injuries to the people or damage the equipment if user does not abide by the instructions of the manual to execute the tasks.

■ Standard Specifications

Three phase 200V Series

Model (RM6F6-□□□□□B3)	2A005	2A007	2A010	2A016	2A022	2A031	2A042	2A060
Maximum applicable motor (HP / kW)	1/0.75	2/1.5	3/2.2	5/3.7	7.5/5.5	10/7.5	15/11	20/15
Rated output capacity (kVA)	1.6	2.6	3.8	5.8	8.1	12	16	23
Rated output current (A)	4.2	6.8	10	15.2	21.3	31	42	60
Maximum output voltage (V)	Three phase 200~240V (corresponding input voltage)							
Range of output frequency (Hz)	0.1~600.00Hz							
Power source (Φ, V, Hz)	Three phase 200~240V 50/60Hz							
Input current (A)	6.1	8	12	18	25.2	41	56	68
Permissible Ac power source fluctuation	170~264V 50/60Hz / ±5%							
Overload protection	120% of drive rated output current for 1 min							
Fan air delivery(CFM)	Nature cooling		8.1	16.2	16.2	62.8	59.8	59.8
Applicable safety standard	—							
Protective structure	IP20							
Weight / Mass(kg)	1.8	1.8	1.8	2.0	2.1	3.0	5.4	5.7
Case Code	Case 1					Case 2	Case 3	

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Model (RM6F6-□□□□□B3/E3)	2A075	2A090	2A112	2A150	2A185	2A220	2A275
Maximum applicable motor (HP / kW)	25/18.5	30/22	40/30	50/37	60/45	75/55	100/75
Rated output capacity (kVA)	29	34	43	57	70	84	105
Rated output current (A)	75	90	112	150	185	220	275
Maximum output voltage (V)	Three phase 200~240V (corresponding input voltage)						
Range of output frequency (Hz)	0.1~600.00Hz						
Power source (Φ, V, Hz)	Three phase 200~240V 50/60Hz						
Input current (A)	86	103	128	183	211	240	280
Permissible Ac power source fluctuation	170~264V 50/60Hz / ±5%						
Overload protection	120% of drive rated output current for 1 min						
Fan air delivery(CFM)	150	150	216	216	212	394	394
Applicable safety standard	—						
Protective structure	IP20				IP00 (IP20 option)		
Weight / Mass(kg)	12.4	13.1	14.7	14.8	42.7	44.3	46.3
Case Code	Case 4				Case 5		

Model (RM6F6-□□□□□E3)	2A346	2A410	2A500	2A700	2A840	—	—
Maximum applicable motor (HP / kW)	125/90	150/110	175/132	250/185	300/220	—	—
Rated output capacity (kVA)	132	156	191	267	321	—	—
Rated output current (A)	346	410	500	700	840	—	—
Maximum output voltage (V)	Three phase 200~240V (corresponding input voltage)						
Range of output frequency (Hz)	0.1~600.00Hz						
Power source (Φ, V, Hz)	Three phase 200~240V 50/60Hz						
Input current (A)	330	385	470	660	792	—	—
Permissible Ac power source fluctuation	170~264V 50/60Hz / ±5%						
Overload protection	120% of drive rated output current for 1 min						
Fan air delivery(CFM)	394	591	591	788	788	—	—
Applicable safety standard	—						
Protective structure	IP00 (IP20 option)						
Weight / Mass(kg)	63.6	89	90	164	167	—	—
Case Code	Case 6	Case 7		Case 8		—	—

Three phase 400V Series

Model (RM6F6-□□□□□B3)	4A004	4A005	4A009	4A012	4A018	4A023	4A031	4A039
Maximum applicable motor (HP / kW)	2/1.5	3/2.2	5/3.7	7.5/5.5	10/7.5	15/11	20/15	25/18.5
Rated output capacity (kVA)	2.7	3.8	6.9	8.6	14	18	24	30
Rated output current (A)	3.5	5	9	11.3	18	23	31	39
Maximum output voltage (V)	Three Phase 380~480V (corresponding input voltage)							
Range of output frequency (Hz)	0.1~600.00Hz							
Power source (Φ, V, Hz)	Three Phase 380~480V 50/60Hz							
Input current (A)	4.2	6	12	13.4	20	26	44	47
Permissible Ac power source fluctuation	323~528V 50/60Hz / ±5%							
Overload protection	120% of drive rated output current for 1 min							
Fan air delivery(CFM)	Nature cooling	8.1	16.2	16.2	62.8	62.8	59.8	59.8
Applicable safety standard	—							
Protective structure	IP20							
Weight / Mass(kg)	1.8	1.8	1.9	2.0	3.0	3.1	5.6	5.7
Case Code	Case 1				Case 2		Case 3	

Model (RM6F6-□□□□□B3/E3)	4A045	4A058	4A075	4A091	4A110	4A144	4A180	4A216
Maximum applicable motor (HP / kW)	30/22	40/30	50/37	60/45	75/55	100/75	125/90	150/110
Rated output capacity (kVA)	34	44	57	69	84	110	137	165
Rated output current (A)	45	58	75	91	110	144	180	216
Maximum output voltage (V)	Three Phase 380~480V (corresponding input voltage)							
Range of output frequency (Hz)	0.1~600.00Hz							
Power source (Φ, V, Hz)	Three Phase 380~480V 50/60Hz							
Input current (A)	52	66	86	105	132	162	181	202
Permissible Ac power source fluctuation	323~528V 50/60Hz / ±5%							
Overload protection	120% of drive rated output current for 1 min							
Fan air delivery(CFM)	59.8	150	216	216	216	212	394	394
Applicable safety standard	—							
Protective structure	IP20					IP00 (IP20 option)		
Weight / Mass(kg)	5.8	12.8	12.9	15	15.3	44	45.5	46.4
Case Code	Case 3	Case4				Case5		

※ 4A045 is only available in RM6F6-□□□□□B3 series model.

※ 4A176 and 4A210 are only available in RM6F6-□□□□□E3 series model.

Model (RM6F6-□□□□□E3)	4A253	4A304	4A377	4A415	4A480	4A585	4A700	4A860	4A960
Maximum applicable motor (HP / kW)	175/ 132	200/ 160	250/ 185	300/ 220	350/ 250	420/ 315	500/ 375	600/ 450	700/ 500
Rated output capacity (kVA)	193	232	287	316	366	446	533	655	732
Rated output current (A)	253	304	377	415	480	585	700	860	960
Maximum output voltage (V)	Three Phase 380~480V (corresponding input voltage)								
Range of output frequency (Hz)	0.1~600.00Hz								
Power source (Φ, V, Hz)	Three Phase 380~480V 50/60Hz								
Input current (A)	217	282	355	385	440	540	627	800	900
Permissible Ac power source fluctuation	323~528V 50/60Hz / ±5%								
Overload protection	120% of drive rated output current for 1 min								
Fan air delivery(CFM)	394	394	591	591	788	788	788	1182	1182
Applicable safety standard	-								
Protective structure	IP00 (IP20 option)								
Weight / Mass(kg)	64	64.5	95	97	159	163	164	217	272
Case Code	Case 6		Case 7		Case 8			Case 9	

※ The weight of RM6F6 series standard specifications exclude ACL and DCL.
※ Applicable safety standard "-" means on planning.
※ Drive derate based on the carrier frequency(C4-00). Please refer to the table below:

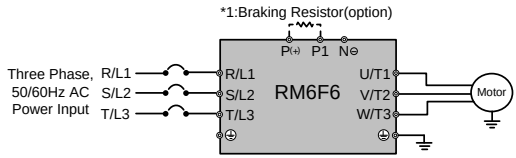
	C4-00=2	C4-00=3	C4-00=4	C4-00=5	C4-00=6
Rate	1	0.96	0.85	0.72	0.63

■ Descriptions of Main Circuit Terminals

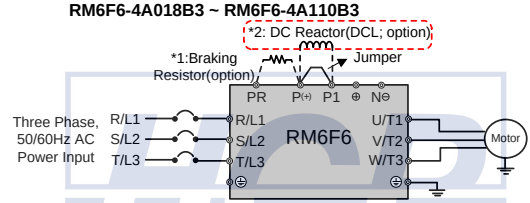
Type	Symbol	Function	Description
Power Source	R,S,T (L1,L2,L3)	AC power source input terminals	Three-phase; sinusoidal power source input terminals.
	⊕, N⊖	DC power source input terminals	External DC power source terminal. ※Only 2A005~2A150, 4A004~4A110 models have the terminal.
Motor	U,V,W (T1,T2,T3)	Drive outputs to motor terminals	Output three-phase variable frequency and voltage to motor.
Power and Braking	P(+), N⊖	Dynamic brake unit terminal	Connect to dynamic braking unit(option).
	P(+), PR	External braking resistor terminal	Connect to external brake resistor (option).
	P(+), P1	External reactor terminal	Connect to DC reactor (DCL) for improving power factor. The default setting is connected by a jumper.
Ground	PE(or G) ⏚	Grounding terminal	Ground the drive in compliance with the NEC standard or local electrical code.

■ Wiring of Main Circuit

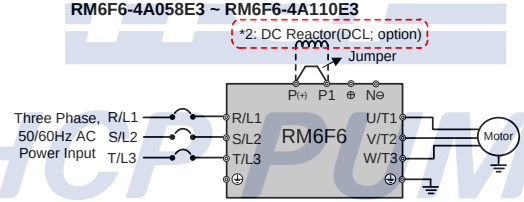
Model：RM6F6-2A005B3 ~ RM6F6-2A022B3 ;
RM6F6-4A004B3 ~ RM6F6-4A012B3



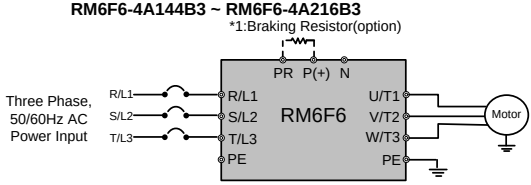
Model：RM6F6-2A031B3 ~ RM6F6-2A150B3 ;
RM6F6-4A018B3 ~ RM6F6-4A110B3



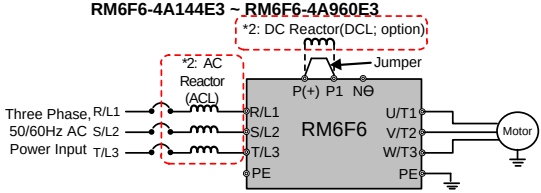
Model：RM6F6-2A075E3 ~ RM6F6-2A150E3 ;
RM6F6-4A058E3 ~ RM6F6-4A110E3



Model：RM6F6-2A185B3 ~ RM6F6-2A275B3;
RM6F6-4A144B3 ~ RM6F6-4A216B3



Model：RM6F6-2A185E3 ~ RM6F6-2A840E3 ;
RM6F6-4A144E3 ~ RM6F6-4A960E3



*1: PR terminal is only available in B type series. (Build-in brake transistor)
Braking resistor is optional.

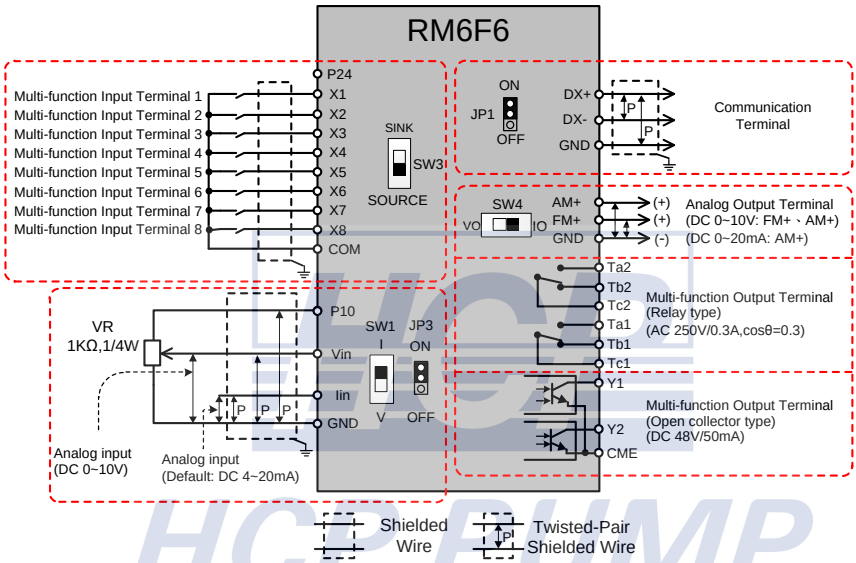
*2: Model above RM6F6-2A346 or RM6F6-4A180: AC reactor (ACL) is the standard accessory.
Model above RM6F6-2A700 or RM6F6-4A304: DC reactor (DCL) is the standard accessory.

Please remove the jumper between P1 and P terminal, when connecting the external DCL.

DO NOT remove the jumper, when DCL does not be connected.

■ Wiring Diagram and Descriptions of Control Circuit Terminals

Model: RM6F6-2A005B3 ~ RM6F6-2A022B3;
RM6F6-4A004B3 ~ RM6F6-4A012B3



※1.JP1: Terminal resistor selection of communication control.
The internal resistance is 100Ω.

※2.JP2: Terminal resistor selection of KP-601A.
The internal resistance is 100Ω.

※3.JP3: Input impedance selection of Iin.
ON: 250Ω (Default value)
OFF: 500Ω

※4.JP4: ON: GND and COM are short-circuited.
OFF: GND and COM are open-circuited (Default value)

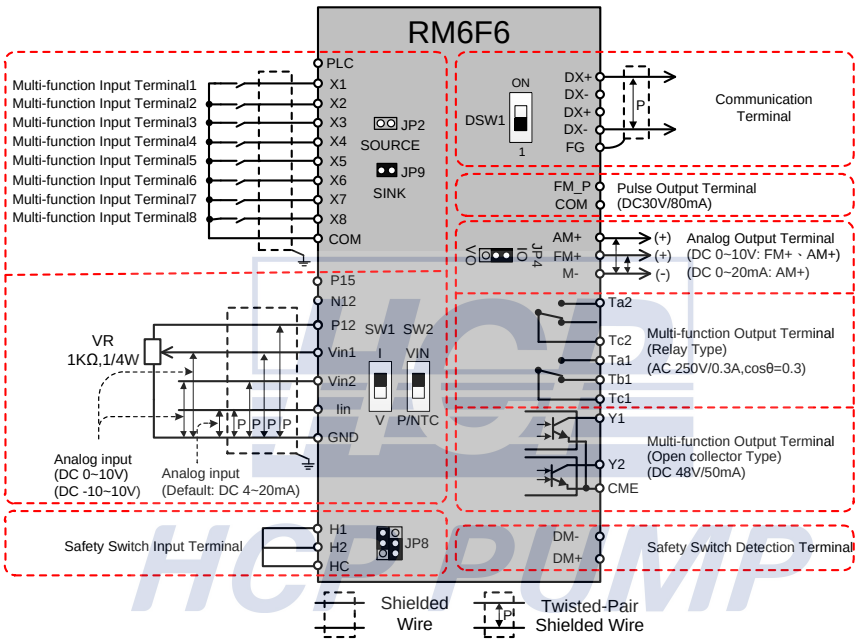
※5.SW1: “Iin” terminal input selection;
I position: Current signal (Default value)
V position: Voltage signal

※6.SW3: SINK / SOURCE selection;
SINK / SOURCE mode selection of X1~X8.

※7.SW4:”AM+”analog output terminal signal selection;
IO position: output current signal (Default value)
VO position: output voltage signal

Type	Symbol	Function	Description
Control Power	P24	Power terminal	Output DC+24V; Maximum supplied current is 100mA
	P10	Power terminal	Output DC+10V; Maximum supplied current is 20mA
	GND	Common terminal	Common terminal for control power(P10,P24), analog input (Vin,Iin), and analog output(AM+,FM+)
Input Terminal	X1	Multi-function input terminal 1~8	Set the function at H1-00 (Default: Forward)
	X2		Set the function at H1-01 (Default: Reverse)
	X3		Set the function at H1-02 (Default: Jog)
	X4		Set the function at H1-03 (Default: External fault)
	X5		Set the function at H1-04 (Default: Reset)
	X6		Set the function at H1-05 (Default: Disable)
	X7		Set the function at H1-06 (Default: Disable)
	X8		Set the function at H1-07 (Default: Disable)
	COM	Common terminal	Common of input terminal (X1~X8) and P24
	Vin	Analog input terminal	Input range: DC 0~10V. Input impedance 20kΩ. Set the function at H3-01 (Default: Freq. command)
	Iin		Input selection: SW1: I position. Input impedance 250Ω. SW1: V position. Input impedance 20kΩ Input range: DC 0~20mA (0~10V) or DC 4~20mA(2~10V). Set the function at H3-11 (Default: Disable)
Output Terminal	FM+	Analog output terminal	Output voltage signal:DC0~10V Max output current:2mA Set the function at H4-00 (Default:Output Freq.)
	AM+		Output current(SW4:IO position): Output range:0~20mA or 4~20mA Max output impedance 500Ω Output Voltage(SW4:VO position): Output range:0~10VDC; Max output current: 2mA Set the function at H4-03 (Default: Output current)
	Ta1	Multi-function output terminals (relay type)	Ta1:N.O (contact a); Tb1: N.C (contact b) Set the function at H2-04 (Default: Error detection) Capacity: AC250V, 0.5A Max, cosθ=0.3
	Tb1		
	Tc1		
	Ta2		Ta2:N.O (contact a); Tb2: N.C (contact b) Set the function at H2-05; Default: Detection during operation Capacity: AC250V, 0.5A Max, cosθ=0.3
	Tb2		
	Tc2		
	Y1	Multi-function output terminals (open collector type)	The function is set by H2-00 and H2-01. Capacity: DC48V, 50mAMax
	Y2		
	CME		Common terminal of Y1, Y2.
Comm. Terminal	DX+	MODBUS Communication terminal	Connect the drive by transmission cable, when the drive is controlled by RS-485 communication interface. Communication protocol: Modbus(interface: RS-485) Terminal resistor switch is selected by JP1. Terminal resistor = 100Ω
	DX-		

Model: RM6F6-2A031B3 ~ RM6F6-2A840E3 ;
RM6F6-4A018B3 ~ RM6F6-4A960E3



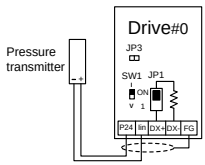
※1.JP2、JP9: SINK / SOURCE selection;
SINK/SOURCE mode selection of X1 to X8.
※2.SW1: “Iin” terminal input selection;
I position: Current signal (default setting)
V position: Voltage signal
※3.SW2:” Vin2” terminal input selection;
Vin position: Voltage signal (default setting)
P/NTC position: External P/NTC thermistor
※4.JP8: SINK / SOURCE selection of safety switch input terminals(H1、H2、HC);
※5.JP4:”AM+”andlog output terminal jumper selection;
IO position: output current signal (default setting)
VO position: output voltage signal
※6.DSW1: Terminal resistor selection of communication control.
The internal resistance is 120Ω.

Type	Symbol	Function	Description
Control Terminal	PLC	Power terminal	Output DC+24V; Maximum supplied current is 100mA
	P12		Output DC+12V; Maximum supplied current is 20mA
	N12		Output DC-12V; Maximum supplied current is 20mA
	P15		Output DC+15V
	GND	Common terminal	Common terminal for P12, N12 and analog input terminal
Input Terminal	X1	Multi-function input terminal 1~8	Set the function at H1-00 (Default: Forward)
	X2		Set the function at H1-01 (Default: Reverse)
	X3		Set the function at H1-02 (Default: Jog)
	X4		Set the function at H1-03 (Default: External fault)
	X5		Set the function at H1-04 (Default: Reset)
	X6		Set the function at H1-05 (Default: Disable)
	X7		Set the function at H1-06 (Default: Disable)
	X8		Set the function at H1-07 (Default: Disable)
	COM	Common terminal	Common of input terminal (X1~X8) and P24
	Vin1	Analog input terminal	Input range: DC 0~10V or -10V~10V. Input range is selected by H3-04. Input impedance 20kΩ. Set the function at H3-01 (Default: Frequency command)
	Vin2		Function is selected by SW2(analog input or thermistor) SW2: Vin position(analog input) Input range: DC 0~10V or -10V~10V. Input range is selected by H3-09. Input impedance 20kΩ. SW2:P/NTC position(thermistor) The type of thermistor is selected by L6-10.
	Iin		Input signal is selected by SW1 and H3-12. SW1: I position(current signal) Input range: DC 0~20mA or 4~20mA SW1: V position(voltage signal) Input range: DC 0~10V. Set the function by H3-11 (Default: Disable)
Output Terminal	FM_P	Pulse output terminal	NPN open collector isolated output: Maximum Permissible value: 30vDC/80mA. Set the function by H6-05 (Default setting: Output frequency)
	FM+	Analog output terminal	Output voltage signal:DC0~10V Max output current:2mA Set the function at H4-00 (Default: Output Frequency)
	AM+		Output current(JP4:IO position): Output range:0~20mA or 4~20mA Max output impedance 500Ω Output Voltage(JP4:VO position): Output range:0~10VDC; Max output current: 2mA Set the function at H4-03 (Default: Output current)
	M-	Common terminal	Common of analog input
	Ta1	Multi-function output terminals (relay type)	Ta1:N.O (contact a); Tb1: N.C (contact b) Set the function at H2-04 (Default: Error detection) Capacity: AC250V, 0.5A Max, cosθ=0.3
	Tb1		
	Tc1		
	Ta2		Ta2:N.O (contact a); Tb2: N.C (contact b) Set the function at H2-05; Default: Detection during operation Capacity: AC250V, 0.5A Max, cosθ=0.3
	Tc2		
	Y1	Multi-function output terminals (open collector type)	The function is set by H2-00 and H2-01. Capacity: DC48V, 50mAMax
	Y2		
	CME		Common terminal of Y1, Y2.
Comm. Terminal	DX+	MODBUS Communication terminal	Connect the drive by transmission cable, when the drive is controlled by RS-485 communication interface. Communication protocol: Modbus(interface: RS-485)
	DX-		
Safety Switch	H1	Safety switch input terminal	Select SINK or SOURCE mode by JP8. Default: SINK mode.H1-HC/H2-HC is shorted.
	H2		
	HC	Common terminal	
	DM+	Safety switch detection terminal	Output status of safety switch. Open collector output type. Capacity:DC48V/50mA
	DM-		

■Wiring Diagram and Setting for Single-pump and Multi-pump Applications

Model: RM6F6-2A005B3 ~ RM6F6-2A022B3;
RM6F6-4A004B3 ~ RM6F6-4A012B3

Single Pump Control(G3-00=1)

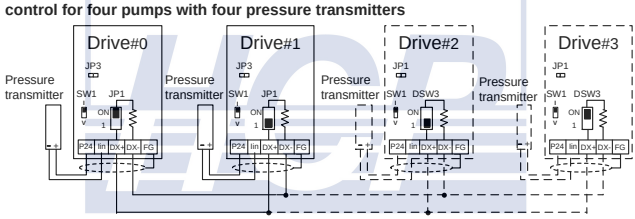


1. SW1: I position
2. JP3: Open
3. JP1: ON position
4. G3-00=1

SW1: Input signal type selection of Iin
JP3: Input impedance selection of Iin
JP1: Terminal resistor switch
G3-00: Selection of Pump Control Mode
G3-01: Set Drive's No for Parallel Control

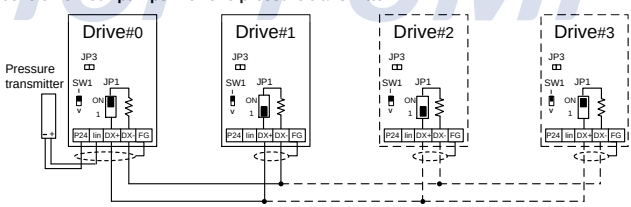
Multi-Pump Control(G3-00=2,3)

1. Parallel control for four pumps with four pressure transmitters



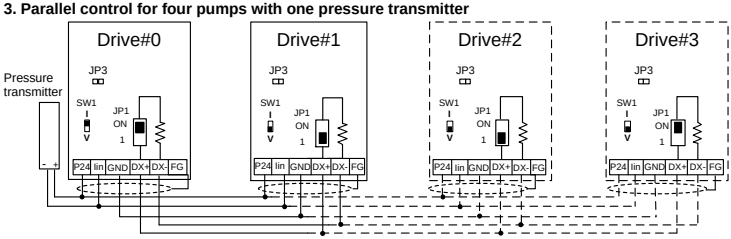
1. SW1: Drive #0~#3 → I position
2. JP3: Drive #0~#3 → Open
3. JP1: Drive#0 and Drive#3 → ON position; Drive#1 and Drive#2 → 1 position
4. Set the number for every drive by G3-01

2. Parallel control for four pumps with one pressure transmitter



1. SW1: Drive#0~#3→ I position
2. JP3: Drive#0 → Open; Drive#1~#3 → Short
3. JP1: Drive#0 and Drive#3 → ON position; Drive#1 and Drive#2 → 1 position
4. Set the number for every drive by G3-01

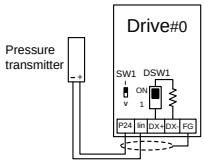
3. Parallel control for four pumps with one pressure transmitter



1. SW1: Drive#0 → I position; Drive#1~#3 → V position
2. JP3: Drive#0 → Open; Drive#1~#3 → Short
3. JP1: Drive#0 and Drive#3 → ON position; Drive#1 and Drive#2 → 1 position
4. Set the number for every drive by G3-01

Model: RM6F6-2A031B3 ~ RM6F6-2A840E3 ;
RM6F6-4A018B3 ~ RM6F6-4A960E3

Single Pump Control(G3-00=1)

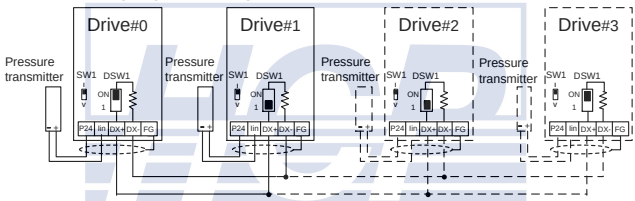


1. SW1: I position
2. DSW1: ON position
3. G3-00=1

SW1: Input signal type selection of Iin
DSW1: Terminal resistor switch
G3-00: Selection of Pump Control Mode
G3-01: Set Drive's No for Parallel Control

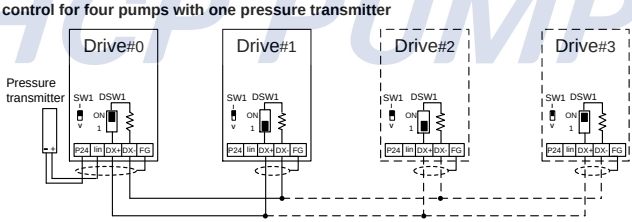
Multi-Pump Control(G3-00=2,3)

1. Parallel control for four pumps with four pressure transmitters



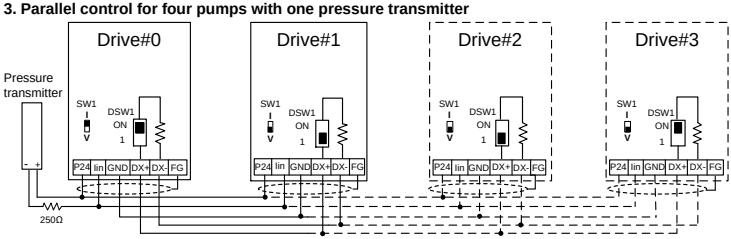
1. SW1: Drive #0~#3 → I position
2. DSW1: Drive#0 and Drive#3 → ON position; Drive#1 and Drive#2 → 1 position
3. Set the number for every drive by G3-01

2. Parallel control for four pumps with one pressure transmitter



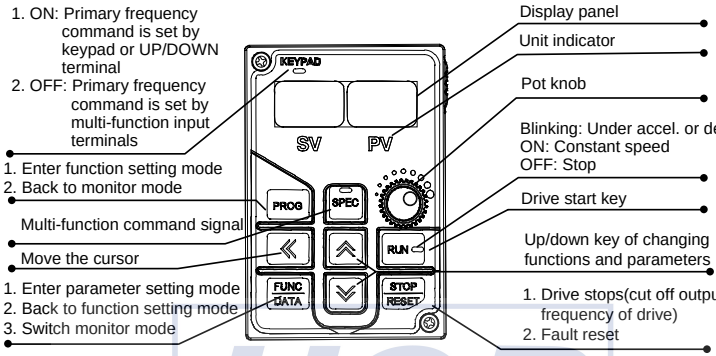
1. SW1: Drive #0~#3 → I position
2. DSW1: Drive#0 and Drive#3 → ON position; Drive#1 and Drive#2 → 1 position
3. Set the number for every drive by G3-01

3. Parallel control for four pumps with one pressure transmitter

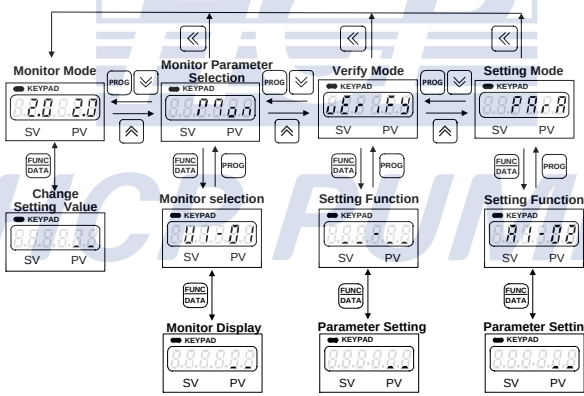


1. SW1: Drive #0 → I position; Drive #1~#3 → V position
2. Drive #0 Iin connect 250Ω resistor to pressure transmitter.
3. DSW1: Drive#0 and Drive#3 → ON position; Drive #1 and #2 → 1 position
4. Set the number for every drive by G3-01

■ Digital Type Keypad KP-601A

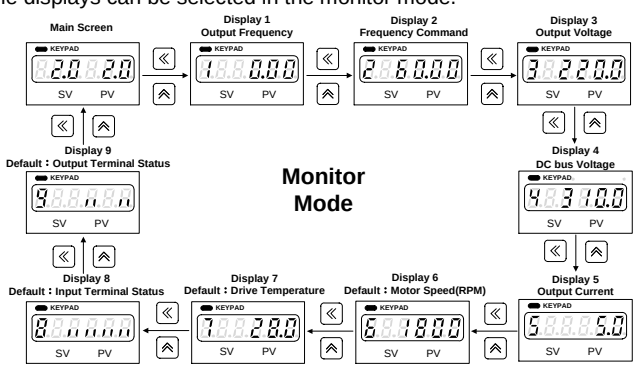


■Operation of Keypad



■Description of Monitor Mode

There are nine displays can be selected in the monitor mode.



■ Parameter List

Group	Name	Group	Name
A1	Initialization (4000H)	F1	PG card setting (4600H)
A3	Keypad Selection (4040H)	G2	Pump Control (4820H)
A4	Function Selection (4065H)	G3	Multi-Pump Control (4850H)
A5	Maintenance Selection (4080H)	H1	Multi-Function Digital Inputs (4A00H)
b1	Operation Mode Selection (4100H)	H2	Multi-Function Digital Outputs (4A20H)
b2	DC Braking (4120H)	H3	Multi-Function Analog Inputs (4A40H)
b3	Speed trace (4130H)	H4	Multi-Function Analog Outputs (4A60H)
b4	Multi-Function Component (4140H)	H5	ModbusSerial Communication (4A80H)
b5	PID Control (4160H)	H6	Pulse input and output (4AA0H)
b6	Holding Function (41A0H)	L1	Driver & Motor Protection (4C00H)
C1	Accel./Decel. Times (4200H)	L2	Restart After Instant Power Failure (4C20H)
C2	S-Curve Characteristics (4220H)	L3	Stall Prevention (4C40H)
C3	V/F Control Compensation (4240H)	L4	Speed and Torque Detection (4C60H)
C4	Carrier Frequency (4260H)	L5	Fault Restart (4C80H)
C5	Automatic Speed Regulator (ASR) (4280H)	L6	Extend Protection (4CA0H)
C7	PM Control Setting(42A0H)	L7	Torque Limit (4CC0H)
d1	Preset Speed (4300H)	P1	Sequence Control (5000H)
d2	Frequency Upper/Lower Limits (4320H)	P2	Traverse Function (5080H)
d3	Jump Frequency (4340H)	o1	Current Loop Gain Setting (5900H)
d4	Up/Down Control (4360H)	U1	Operation Status Monitor (6000H)
d5	Torque Control (4380H)	U2	Fault Trace (6100H)
d6	Field Weakening (43A0H)	U3	Fault History (6200H)
d7	Offset Frequency (43B0H)	U4	Maintenance Monitor (6300H)
E1	Motor1 V/F Pattern (4400H)	U5	PID Monitor (6400H)
E2	Motor1 Parameters (4420H)	U6	Operation Status Monitor 2 (6500H)
E3	Motor2 V/F Pattern (4440H)	U7	Program Control Monitor (6600H)
E4	Motor2 Parameters (4460H)	U8	System Monitor (6700H)

means function can be set up during the operation.

Func.	Name	Range	dF60
A1-02	Control Method Selection	0:V/F Control 1:V/F Control + PG card 2:Vector Control 3:Vector Control + PG card 4:PM control + Resolver 5:PM control + Encoder 6:PM Control 1 (I/F+EMF) 7:PM Control 2 (HFI+EMF) 9:Reserve 11: Reserve	0
A1-03	Auto Tuning Function	0:Disable 1:Rotational tuning 2:Stationary tuning with no-load current 4:Rotational tuning (PM) 5:Resolver angle tuning (PM) 6:Stationary tuning (PM) 8: Reserve	0
A1-04	Power Source	100.0~300.0V(220V series) 240.0~500.0V(380V series)	220.0 380.0
A1-05	Default Setting	none dF60: Default value for 60Hz dF50: Default value for 50Hz dFPM: PM motor default value dFPUMP: Pump mode dFPid: PID function mode SEndPr: Parameter copy to slave. SAv: Save the setting value rES: Restore the setting value Wr_KP: Keypad ← Drive rd_KP: Keypad → Drive Commt: Communication test	—
A1-07	Parameter Password Input/ Decode	0000~9999	—
A1-08	Parameter Password Setting	0000~9999	—
A1-09	Display selection of Parameter Lock	0:Only display A1-07 1:Display all parameters	0
A1-11	Simple parameter Lock	0:Disable 1:Enable,only can adjust A3-00, A3-20~A3-22, and B5-17	0
A3-00	Keypad Frequency Command	0.00~E1-00 Hz	60.00
A3-01	Keypad Frequency Selection	0:A3-00 (Digital) 1:Pot knob(Analog)	0
A3-02	Keypad Pot Function Selection	0~19(Please refer to H3-01) Enable when A3-01=0	0
A3-03	Keypad Pot Response	0.000~50.000 sec	0.000
A3-04	Function Selection (SPEC)	-64~+64 (Please refer to H1-00)	0
A3-05	Self-holding(SPEC)	0:Disable 1:Enable	0
A3-06	Main Display	000~999	102
A3-07	Display 6	000~999	109
A3-08	Display 7	000~999	106
A3-09	Display 8	000~999	107
A3-10	Display 9	000~999	108
A3-11	Main Display Gain 1	0.01~100.00	1.00
A3-12	Main Display Gain 2	0.1~1000.0	1.0
A3-13	Main Display Decimal Value	0~3	3
A3-14	Selection Validity of “STOP” key	0: “STOP” key disable at b1-00=2. 1: “STOP” key enable at b1-00=2.	0

Func.	Name	Range	dF60
A3-15	Frequency Command Selection (keypad)	0:Command is changeable in the monitor mode 1:Command is unchangeable in the monitor mode	0
A3-16	Display and “---” show alternately at Stop	0:Disable 1:Enable 2:b1-02=1	2
A3-17	Parameter Setting Method	0:Effective when press FUNC DATA key 1:Effective when setting is changed	0
A3-18	Selection When Keypad is Disconnected	0:Drive keeps operation 1:Drive trips “PAdF”	0
A3-19	Function of “Func/Data” Key	0:A3-00 1:A3-20 2:A3-21 3:A3-22 4:b5-17	0
A3-20	MPM Command 0	0~(E1-00)*(b1-15)*(b1-16)	50
A3-21	MPM Command 1	0~(E1-00)*(b1-15)*(b1-16)	50
A3-22	MPM Command 2	0~(E1-00)*(b1-15)*(b1-16)	50
A3-23	Dual Display	000~999	000
A3-24	Main Display in Secondary Frequency	000~999	102
A3-25	Dual Display in Secondary Frequency	000~999	000
A3-26	Keypad Selection	0:Select automatically 1:LCD keypad (KP-602)	0
A4-00	Control Function Selection	0:None 2:Reserve 1:Reserve 4:Pump	0
A5-00	U2-00 Setting	0~9	0
A5-01	Maintenance Management Function	0:None 1:Clr.Err:Clear fault history 2:Clr.kwh:Clear Watt-hour meter 3:Clr.All:Clear all item	—
A5-02	Cumulative Power On Setting	0~49999 hr	0
A5-03	Cumulative Operation Time Setting	0~49999 hr	0
A5-04	Cooling Fan Operation Time Setting	0~49999 hr	0
b1-00	Primary Frequency Selection	0.Keypad 1.Digital Input (X1~X8) 2.Analog Input (Vin1,Vin2, Iin) 3.Communication 4.Pulse control (X8) 6.MPG (PG card) + multiple ratio 7.MPM speed 0 8.MPM speed 1 9.MPM speed 2 10.PID output	0
b1-01	Secondary Frequency Selection		0
b1-02	Primary Start Command	0:Keypad(RUN key) 1:Digital input(X1~X8) 2:Communication interface	0
b1-03	Secondary Start Command		0
b1-04	Primary Direction Command	0:Keypad (SPEC key + A3-04=5) 1:Digital input(X1~X8) 2:Communication interface	0
b1-05	Secondary Direction Command		0
b1-06	Comm. Control Source	0:RS485 Port 1:Option card	0
b1-07	Number of Digital Input Controls by Modbus	0~8	8

Func.	Name	Range	dF60
b1-09	Selection below Minimum Output Freq.	0:According to freq. command 1:Stop running 2:Running according to E1-04 3:Runnging at zero speed	0
b1-10	Stop method	0:Ramp to stop + DC braking 1:Coast to stop 2:Coast to stop + DC braking	0
b1-11	Reverse Operation Selection	0:Enable 1:Disable	0
b1-12	Phase Order Selection	0:Clockwise (IEC) 1:Couterclockwise (NEMA)	0
b1-13	Operation Selection after Local/Remote Switching	0:Cut off the start command and issue the new start command to operate 1:Operate immediately if the start command issue	0
b1-14	Operation Selection at Power ON	0:Cut off the start command and issue the new start command to operate 1:Operate immediately if the start command issue	0
b1-15	MPM gain 1	Frequency= MPM / b1-15×b1-16	1
b1-16	MPM gain 2		1
b2-00	DC Braking Frequency	0.1~60.0 Hz	0.5
b2-01	DC Braking Level	0~120% of drive rated current	50
b2-02	DC Braking Response Time	0.001~60.000 sec	1.000
b2-03	Time of DC Braking at Start	0.0~60.0 sec	0.0
b2-04	Time of DC Braking after Ramp to Stop	0.0~60.0 sec	0.5
b2-05	Delay Time of DC Braking after Coast to Stop	0.0~60.0 sec	0.5
b2-06	Time of DC Braking after Coast to Stop	0.0~600.0 sec	5.0
b2-07	DC Braking Level at Zero Speed	0~150% of drive rated current	0
b3-00	Speed Trace Selection at Start	0:None 1:Frequency command 2:Maximum frequency	0
b3-01	CurrentLevel of Speed Trace	0~200% of drive rated current	150
b3-02	V/F Gain During Speed Trace	0.10~1.00	1.00
b3-03	Wait / Trace Time of Speed Trace	0.0~100.0 sec	0.5
b3-04	Acceleration Time of Speed Trace	0.1~6.0 sec	0.4
b3-05	Deceleration Time of Speed Trace	0.1~10.0 sec	2.0
b3-06	Stable Time of Speed Trace	0~500 ms	200
b3-07	Start Freq. Gain during Speed Trace	0.10~1.00	1.00
b3-08	Filter Constant of Speed Trace	0.000~1.000	0.03
b4-00	Counter Mode	0:Up counter mode 1:Down counter mode	0
b4-01	Counter Value 1	0~60000	0
b4-02	Counter Value 2	0~60000	0
b4-03	Counter Cycle Value	0~60000	0
b4-04	Timer ON-Delay Time	0.0~6000.0 sec	0.0
b4-05	Timer OFF-Delay Time	0.0~6000.0 sec	0.0
b5-00	PID Function Selection	0:PID Disable 1:Freq. Output =PID 2:Freq. Output =PID + Freq. command 3:External usage(enable when power is on) 4:External usage(enable when operating) 5:External usage(enable depend on H1-□□=38)	0
b5-01	Proportional Gain 1(P)	0.00~100.00	1.00
b5-02	Integral Time 1(I)	0.000~36.000 sec	1.000
b5-03	Derivative Time1(D)	0.000~10.000 sec	0.000
b5-04	Proportional Gain 2(P)	0.00~100.00	1.00
b5-05	Integral Time 2(I)	0.000~36.000 sec	1.000
b5-06	Derivative Time2(D)	0.000~10.000 sec	0.000
b5-07	Integral Upper Limit	-1.00~1.00	1.00
b5-08	Integral Lower Limit	-1.00~1.00	0.00
b5-09	Integral Initial Value	-320.00~320.00	0.00
b5-10	PID Input Limit	0.00~1.00	1.00
b5-11	PID Delay Time	0.00~10.00 sec	0.00
b5-12	PID Output Bias	-1.00~1.00	0.00
b5-13	PID Output Gain	-25.00~25.00	1.00
b5-14	PID Proportional Selection	0: General mode 1: preposition mode	0
b5-15	PID Derivative Selection	0: General mode 1: preposition mode	0
b5-16	PID Feedback Filter	0.001~1.000	1.000
b5-17	PID Set Point	-320.00~320.00	0.00
b5-18	Feedforward Controller Gain	-25.00~25.00	0.00
b5-19	Feedforward Controller Limit	-1.00~1.00	0.00
b5-20	PID Output Limit	0.00~1.00	0.00
b5-21	PID Output 2 Upper Limit	-1.00~1.00	1.00
b5-22	PID Output 2 Lower Limit	-1.00~1.00	0.00
b5-23	PID Feedback Error Detection Selection	0: None 1: Alarm 2: Ramp to stop 3: Coast to stop	0
b5-24	PID Feedback Low Detection Level	-1.00~1.00	-1.00
b5-25	PID Feedback Low Detection Time	0.0~60.0 sec	1.0
b5-26	PID Feedback High Detection Level	-1.00~1.00	1.00
b5-27	PID Feedback High Detection Time	0.0~60.0 sec	1.0
b5-28	PID Sleep Initial Level	-320.00~320.00	0.00
b5-29	PID Sleep Delay Time	0.0~600.0 sec	0.0
b5-30	PID Wakeup Initial Level	-320.00~320.00	0.00
b5-31	PID Wakeup Delay Time	0.0~600.0 sec	0.0
b5-32	PID Error Dead Band	0.000~1.000	0.001

Func.	Name	Range	dF60
b5-33	Holding Time of PID Parameter Switching	0.000~60.000 sec	0.000
b5-34	PID Softer Start Accel./ Decel. Time	0.0~6000.0 sec	0.0
b5-35	PID Direction Selection	0: Forward control 1: Reverse control	0
b5-36	Upper Limit of Transmitter	-320.00~320.00	1.00
b5-37	Lower Limit of Transmitter	-320.00~320.00	0.00
b5-38	2nd PI control selection	0: Depend on b5-40 1: Switch back to the primary PI after the deviation is lower than 5% of b5-39.	0
b5-39	(2nd PI) Active Range	-320.00~320.00	1.00
b5-40	(2nd PI) Active Time	0.0~300.0 sec	0.0
b6-00	Holding Freq. at Start	0.00~600.00 Hz	0.00
b6-01	Holding Time at Start	0.0~360.0 sec	0.0
b6-02	Holding Freq. at Stop	0.00~600.00 Hz	0.00
b6-03	Holding Time at Stop	0.0~360.0 sec	0.0
C1-00	Reference Freq. of Accel./Decel. Time	0.01~600.00 Hz	60.00
C1-01	Accel. Time 0	0.0~3200.0 sec	5.0
C1-02	Decel. Time 0	0.0~3200.0 sec	5.0
C1-03	Accel. Time 1	0.0~3200.0 sec	5.0
C1-04	Decel. Time 1	0.0~3200.0 sec	5.0
C1-05	Aecel. Time 2 (Motor 2 Aecel.Time 0)	0.0~3200.0 sec	5.0
C1-06	Decel. Time 2 (Motor 2 Dccel.Time 0)	0.0~3200.0 sec	5.0
C1-07	Aecel. Time 3 (Motor 2 Aecel.Time 1)	0.0~3200.0 sec	5.0
C1-08	Decel. Time 3 (Motor 2 Decel.Time 1)	0.0~3200.0 sec	5.0
C1-09	Secondary Accel. Time	0.0~3200.0 sec	5.0
C1-10	Secondary Decel. Time	0.0~3200.0 sec	5.0
C1-11	Accel. Time at Output Voltage Adjustment of V/F Pattern	0.0~3200.0 sec	5.0
C1-12	Decel. Time at Output Voltage Adjustment of V/F Pattern	0.0~3200.0 sec	5.0
C1-13	Fast Stop Time	0.0~3200.0 sec	5.0
C1-14	Accel. /Decel. Time Unit	0:0.1~3200 sec 1:0.01~320 sec	0
C1-15	Accel. /Decel. Time Switching Frequency	0~600 Hz	0
C2-00	S-Curve time at Accel Start	0.00~10.00 sec	0.00
C2-01	S-Curve time at Accel End	0.00~10.00 sec	0.00
C2-02	S-Curve time at Decel Start	0.00~10.00 sec	0.00
C2-03	S-Curve time at Decel End	0.00~10.00 sec	0.00
C3-00	Motor Slip Compensation	-60.0~60.0 Hz	0.0

Func.	Name	Range	dF60
C3-01	Slip Compensation Response Time	0.000~10.000 sec	0.800
C3-02	Automatic Voltage Regulation (AVR)	0:Disable 1:Enable at all range 2:Enable at constant speed and accel.(V/F) / Enable at decel.(OLV) 3:Deceleration(V/F)	1
C3-03	Response Time of AVR	0.000~20.000 sec	0.050
C3-04	Current Oscillation Compensation Gain	0.0~500.0	0.0
C3-05	Current Oscillation Compensation Response Time	0.000~1.000 sec	0.000
C3-06	Automatic Torque Compensation Gain	0.0~25.5	1.0
C3-07	Automatic Torque Compensation Response Time	0.000~20.000 sec	1.000
C3-10	Motor 2 Slip Compensation	-60.0~60.0 Hz	0.0
C3-11	Motor 2 Slip Compensation Response Time	0.000~10.000 sec	0.800
C3-12	Motor 2 Automatic Voltage Regulation (AVR)	0:Disable 1:Enable at all range 2:Enable at constant speed and accel.(V/F) / Enable at decel.(OLV) 3:Deceleration(V/F)	1
C3-13	Motor 2 Response Time of AVR	0.000~20.000 sec	1.000
C3-14	Motor 2 Current Oscillation Compensation Gain	0.0~500.0	1.0
C3-15	Motor 2 Current Oscillation Compensation Response Time	0.000~1.000 sec	0.010
C3-16	Motor 2 Automatic Torque Compensation Gain	0.0~25.5	1.0
C3-17	Motor 2 Automatic Torque Compensation Response Time	0.000~20.000 sec	1.000
C3-20	Current Oscillation Compensation Gain	0.0~300.0	10.0
C3-21	Current Oscillation Compensation Filter	0.000~1.000	0.500
C3-22	Motor 2 Current Oscillation Compensation Gain	0.0~300.0	0.0
C3-23	Motor 2 Current Oscillation Compensation Filter	0.000~1.000	0.100
C4-00	Carrier Frequency	0~6	1

Func.	Name	Range	dF60
C5-00	ASR Proportional Gain 1(P)	0.00~300.00	8.00
C5-01	ASR Integral Time 1(I)	0.000~10.000 sec	0.050
C5-02	ASR Proportional Gain 2(P)	0.00~300.00	8.00
C5-03	ASR Integral Time 2(I)	0.000~10.000 sec	0.050
C5-04	ASR Limit	0.0~20.0%	5.0
C5-05	Integral Selection during Accel/Dccel	0: Disable 1: Enable	0
C5-06	ASR Delay Time	0.000~0.500 sec	0.000
C5-07	ASR Switching Frequency	0.0~400.0 Hz	120.0
C5-08	ASR Integral Limit	0~400%	400
C5-09	PM HFI Speed Estimator Proportional Gain	0.00~10.00	0.25
C5-10	PM HFI Speed Estimator Integral Gain	0.00~200.00	25.00
C5-11	EMF Proportional Gain at High speed	0.00~100.00	1.00
C5-12	EMF Proportional Gain at Low speed	0.00~100.00	1.00
C5-13	EMF Compensation Proportional Gain	0.00~100.00	1.00
C5-14	EMF Compensation Integral Gain	0.00~100.00	1.00
C7-00	Current Level in IF mode	-1.00~1.00	0.20
C7-01	PM Control Method Switching Freq.	0.0~200.0Hz	0.5
C7-02	HFI Signal Low Pass Filter	0.001~1.000	1.000
C7-03	HFI Control Method	0:DC braking 1:HFI 2:IPM magnetic pole 3:PM magnetic pole 4:Pulse	0
C7-04	Timeout of HFI Initial Position Detection	0.01~5.00 sec	0.50
C7-05	HFI Angle Offset	-1.00~1.00	0.10
C7-06	HFI Frequency	0~2000 Hz	800
C7-07	HFI Voltage	0.00~0.50	0.20
C7-08	Judgment Level of HFI Success	0~250	0
C7-09	Resolver Angle Offset	-1.000~1.000	0.000
C7-10	Current Offset Of D-Axis	-1.00~1.00	0.00
C7-11	Voltage utilization	100~150	120
C7-12	Duty of Pulse Positioning	1~1000	150
d1-00	Preset Speed 0	0.00~600.00	60.00
d1-01	Preset Speed 1	0.00~600.00	10.00
d1-02	Preset Speed 2	0.00~600.00	20.00
d1-03	Preset Speed 3	0.00~600.00	30.00
d1-04	Preset Speed 4	0.00~600.00	0.00
d1-05	Preset Speed 5	0.00~600.00	0.00
d1-06	Preset Speed 6	0.00~600.00	0.00
d1-07	Preset Speed 7	0.00~600.00	0.00
d1-08	Preset Speed 8	0.00~600.00	0.00
d1-09	Preset Speed 9	0.00~600.00	0.00
d1-10	Preset Speed 10	0.00~600.00	0.00
d1-11	Preset Speed 11	0.00~600.00	0.00
d1-12	Preset Speed 12	0.00~600.00	0.00
d1-13	Preset Speed 13	0.00~600.00	0.00

Func.	Name	Range	dF60
d1-14	Preset Speed 14	0.00~600.00	0.00
d1-15	Preset Speed 15	0.00~600.00	0.00
d1-16	Jog Speed	0.00~600.00	6.00
d2-00	Output Freq. Limit Selection	0:d2-01 and d2-02 1:d2-03 and d2-04	0
d2-01	Freq. Upper Limit (%)	0.00~1.00	1.00
d2-02	Freq. Lower Limit (%)	0.00~1.00	0.00
d2-03	Freq. Upper Limit (Hz)	0.00~600.00 Hz	60.00
d2-04	Freq. Lower Limit (Hz)	0.00~600.00 Hz	0.00
d3-00	Jump Freq. 1	0.0~600.0 Hz	0.0
d3-01	Jump Freq. 2	0.0~600.0 Hz	0.0
d3-02	Jump Freq. 3	0.0~600.0 Hz	0.0
d3-03	Jump Freq. Range	0.0~20.0 Hz	1.0
d4-00	UP/DOWN Memory Selection	0:Disable 1:Enable	0
d4-01	UP/DOWN Freq. Resolution	0.01~25.00 Hz	0.01
d4-02	UP/DOWN Trigger Mode	0:Edge trigger 1~5:Response time(sec)	0
d4-03	UP/DOWN Freq. Adjustment	0.00~600.00 Hz	0.00
d4-04	Freq. Resolution during Accel./Decel.	0.01~25.00 Hz	4.00
d5-01	Torque Control Selection	0:Speed Control 1:Torque Control	0
d5-02	Torque Command Delay Time	0~1000 msec	0
d5-03	Speed Limit Selection	0:Frequency command 1:d5-04	0
d5-04	Speed Limit	-120~120%	0
d5-05	Speed Limit Bias	0~120%	10
d5-06	Speed/Torque Control Switch Delay Time	0~1000 msec	0
d5-08	Unidirectional Speed Limit bias	0:Disabled (bidirectional) 1:Enabled (unidirectional)	1
d5-10	T/F Curve Maximum Torque Gain	0.000~2.000	1.000
d5-11	T/F Curve Maximum Freq.	0.0~600.0 Hz	60.0
d5-12	T/F Curve Minimum Torque Gain	0.000~2.000	1.000
d5-13	T/F Curve Minimum Freq.	0.0~600.0 Hz	0.0
d6-00	Field Weakening Level	0~100%	80%
d6-01	Field Weakening Freq. Limit	0.0~400.0 Hz	0.0
d7-00	Offset Freq. 0	-1.00~1.00	0.00
d7-01	Offset Freq. 1	-1.00~1.00	0.00
d7-02	Offset Freq. 2	-1.00~1.00	0.00
E1-00	Maximum Output Freq.	0.1~600.0 Hz	60.0
E1-01	Maximum Output Voltage	0.0~300.0V (220V series) 0.0~550.0V (380V series)	220.0 380.0
E1-02	Base Freq.	0.1~600.0 Hz	60.0
E1-03	Base Voltage	0.1~300.0V (220V series) 0.1~550.0V (380V series)	220.0 380.0
E1-04	Start Freq.	0.0~10.0 Hz	0.5
E1-05	Start Voltage	0.1~50.0V (220V series) 0.1~100.0V (380V series)	8.0 12.0
E1-06	V/F Freq. 1	0.0~600.0 Hz	0.0
E1-07	V/F Voltage 1	0.0~300.0V (220V series) 0.0~550.0V (380V series)	0
E1-08	V/F Freq. 2	0.0~600.0 Hz	0.0

Func.	Name	Range	dF60
E1-09	V/F Voltage 2	0.0~300.0V (220V series) 0.0~550.0V (380V series)	0
E1-10	Output Voltage Limit	0:Disable 1:Enable	0
E1-11	VF Pattern	0:Linear 1:Energy-saving 2:Square Curve 3:1.7th power Curve 4:1.5th power Curve	0
E1-12	Non-linear Start Freq.	0.0~600.0 Hz	0.0
E1-13	Non-Linear Start Voltage	0.0~255.0V (220V series) 0.0~550.0V (380V series)	0.0
E1-14	Voltage Boost Ratio at Acceleration	0~100	0
E1-15	Voltage Buck Time after Boost Voltage	0.1~60.0 msec	10.0
E2-01	Motor Rated Current	10~150% of drive rated current	—
E2-02	Motor Rated Slip	0.00~20.00 Hz	—
E2-03	Motor No-Load Current	0~E2-01	—
E2-04	Motor Poles	2~24	4
E2-05	Motor Line-to-Line Resistance	0.001~65.000 Ω	—
E2-06	Motor Leakage Inductance	0.01~40.0 %	—
E2-11	PM Motor Ld	0.001~60.000 mH	3.000
E2-12	PM Motor Lq	0.001~60.000 mH	3.000
E2-13	Back-EMF Constant	0.01~650.00	60.0
E3-00	Motor 2 Maximum Output Freq.	0.1~600.0Hz	60.0
E3-01	Motor 2 Maximum Output Voltage	0.0~300.0V (220V series) 0.0~550.0V (380V series)	220.0 380.0
E3-02	Motor 2 Base Freq.	0.1~600.0 Hz	60.0
E3-03	Motor 2 Base Voltage	0.1~300.0V (220V series) 0.1~550.0V (380V series)	220.0 380.0
E3-04	Motor 2 Start Freq.	0.0~10.0 Hz	0.5
E3-05	Motor 2 Start Voltage	0.1~50.0V (220V series) 0.1~100.0V (380V series)	8.0 12.0
E3-06	Motor 2 V/F Freq. 1	0.0~600.0 Hz	0.0
E3-07	Motor 2 V/F Voltage 1	0.0~300.0V (220V series) 0.0~550.0V (380V series)	0
E3-08	Motor 2 V/F Freq. 2	0.0~600.0Hz	0.0
E3-09	Motor 2 V/F Voltage 2	0.0~300.0V (220V series) 0.0~550.0V (380V series)	0
E3-10	Motor 2 Output Voltage Limit	0:Disable 1:Enable	0
E3-11	Motor 2 VF Pattern	0:Linear 1:Energy-saving 2:Square Curve 3:1.7th power Curve 4:1.5th power Curve	0
E3-12	Motor 2 Non-linear Start Freq.	0.0~600.0Hz	0.0
E3-13	Motor 2 Non-linear Start voltage	0.0~255.0V (220V series) 0.0~510.0V (380V series)	0.0
E4-01	Motor 2 Rated Current	10~150% of drive rated current	—
E4-02	Motor 2 Rated Slip	0.00~20.00Hz	—
E4-03	Motor 2 No-Load Current	0~E4-01	—
E4-04	Motor 2 Motor Poles	1~24	4
E4-05	Motor 2 Line-to-Line Resistance	0.001~65.000Ω	—
E4-06	Motor 2 Leakage Inductance	0.01~40.0%	—

Func.	Name	Range	dF60
F1-00	Pulse Per Resolution	0~10000	1024
F1-01	Rotation Selection	0:A pulse leads with forward 1:B pulse leads with forward	0
F1-02	PG Open-Circuit (PGO) Selection	1: Disable 2: Warn 3:Ramp to stop 4:Coast to stop	3
F1-03	PGO Detection Time	0.0~10.0 sec	2.0
F1-04	Overspeed (oS) Selection	1: Disable 2: Warn 3:Ramp to stop 4:Coast to stop	3
F1-05	oS Detection Level	0~120%	120
F1-06	oS Detection Time	0.0~2.0 sec	2.0
F1-07	Excessive Speed Deviation(dEv) Selection	1: Disable 2: Warn 3:Ramp to stop 4:Coast to stop	3
F1-08	dEv Detection Level	0~50 %	20
F1-09	dEv Detection Time	0.0~10.0 sec	2.0
F1-10	PG Signal Selection	0: Two track (tracks A and B) 1: Single track (tracks A only)	0
F1-11	Division Rate for PG Pulse Monitor	Output ration= : $\frac{1+F1-12}{F1-11}$	1
F1-12	Double Rate For PG Pulse Monitor		0
F1-13	MPG High Pass Filter	0.000~5.000	1.000
F1-14	MPG Gain	0.00~100.00	1.00
F1-15	MPG Start Angle	0.00~3.00	1.00
F1-16	MPG Low pass Filter	0.000~60.000	0.000
F1-17	Hall sensor Monitor 1	0000~9999	0
F1-18	Hall sensor Monitor 2	0000~9999	0
G2-00	SV Setting Value	0.0~G2-01	2.0
G2-01	Pressure Transducer Setting	0.0~6000.0	10.0
G2-02	Maximum Allowable Operating Pressure	0~100 %	100
G2-03	Pressure Boost (Water Usage)	0.01~160.00	0.15
G2-04	(Water Usage) Pressure Boost Time	0.1~25.0 sec	0.6
G2-05	Time Interval of Pressure Boost (Water Usage)	0~250 sec	35
G2-06	PID Start Range	0.0~160.0	0.3
G2-07	(Water Usage) Drive Standby level	0~120 hz	10
G2-08	(ON/OFF Mode) Starting Rate Setting	0~100 % (0:OFF)	0
G2-09	(ON/OFF Mode) Pressure Dead Band Setting	0.1~25.0	0.3
G2-10	PID Compensation Gain	0.1~8..0	1.0
G2-11	Proportional Gain(P) Selection	0: P postposition 1: P preposition	1

Func.	Name	Range	dF60
G2-12	Proportional Gain(P)	0.0~25.0	3.0
G2-13	Integration Time(I)	0.0~25.0 sec	1.2
G2-14	Derivative Time(D)	0.00~2.50 sec	0.00
G2-15	Derivative Time of Feedback	0.00~2.50 sec	0.00
G2-16	Derivative Time(D) Selection	0: D postposition 1: D preposition	0
G2-17	Integration Upper Limitation	-1.00~1.00	1.00
G2-18	Integration Lower Limitation	-1.00~1.00	0.00
G2-19	Offset Adjustment for Integration Time	0~100%	65
G2-20	PID Buffer Space	0.001~1.000	1.000
G2-21	Feedback Signal Filter	0.000~50.000 sec	0.000
G2-22	(Water Shortage Detection) Auto-restart Selection	0:Disable 1: Trip: Press "RESET" key to reset. 2: Trip: Power ON again to reset. 3: Trip: Auto-restarts according to G2-26.	3
G2-23	(Water Shortage Detection) Pressure Level	0~100%	40
G2-24	(Water Shortage Detection) Current Level	0~100%	0
G2-25	(Water Shortage Detection) Time Detection	0~250 sec	60
G2-26	(Water Shortage) Drive Shutdown Time	0~200 min	6
G2-27	(Water Shortage) number of restart	0~255	10
G2-28	Noise Prevention	0: Disable. 1: Enable.	0
G2-29	Continuous Water Supply Control	0: Disable. 1: Enable.	0
G2-30	Over Pressure Disposal	0: Disable 1: Alarm: Drive keeps running. 2: Alarm: Drive stops output. 3: Trip: Drive trips to stop.	0
G2-31	Over Pressure Level	0~100%	100
G2-32	Over Pressure of Detection Time	0.0~25.5 sec	2.0
G2-33	Over Pressure detection mode	0:During operation 1:During power on	1
G2-34	Feedback Signal Trip Detection	0: Disable. 1: Enable.	1
G2-35	Feedback Signal Trip Level	0.00~1.00	0.10
G2-36	Operation Condition Memory	0: Disable.(b1-02=1) 1: Enable.	1
G2-37	Delay Start Time	0~9999 sec	0

Func.	Name	Range	dF60
G2-38	Force Enter ON/OFF Mode Setting	0:DIsable 1:Enable in dynamic test 2:Enable in static test	0
G3-00	Control Mode Selection	0~8	0
G3-01	Drive's No. Setting	0~8	0
G3-02	(Parallel control) Selection of Pump Shift Operation	0: Disable 1: Shift after G3-04. 2: Shift after a drive stops. 3: Both 1 and 2 enabled.	3
G3-03	(Parallel control) Pump Shift Time Unit	0: Hour 1: Min 2: Sec	0
G3-04	(Parallel control) Pump Shift Time	0~240	24
G3-05	(Parallel control) Delay Time at Pump Shift	0~250 sec	10
G3-06	(Parallel control) Launch Detection Time	0.0~25.0 sec	6.0
G3-07	(Parallel control) Launch Detection Level	0.0~25.0 bar	0.4
G3-08	(Parallel control) Cut-off Frequency	0.0~60.0 Hz	50.0
G3-09	(Parallel control) Cut-off Time	0.0~25.0 sec	10.0
G3-10	Set Standby Drives	0~7	0
G3-11	Set the Minimum Pumps during Operation	1~8	1
G3-12	Total Pump	1~8	4
G3-13	Transfer time	5~65535	150
G3-14	Polling time	1~65535	1
G3-15	Force Master/Slave	0: Disable 1: Force slave 2: Force master	0

Func.	Name	Range	dF60
H1-00	Multi-function Input Terminal (X1)	0:Disable ±1:Jog command ±2:FWD command ±3:REV command ±4:Start command ±5:Direction selection ±6:Stop command ±7:Secondary freq. command ±8:Secondary Accel./Decel. ±9:Multi-speed level 1	2
H1-01	Multi-function Input Terminal (X2)	±10:Multi-speed level 2 ±11:Multi-speed level 3 ±12:Multi-speed level 4 ±13:Accel./Decel. level 1 ±14:Accel./Decel. level 2 ±15:Multi-speed level 1 and Accel./Decel. level 1 ±16:Multi-speed level 2 and Accel./Decel. level 2	3
H1-02	Multi-function Input Terminal (X3)	±17:Reset command ±18:UP command ±19:DOWN command ±20:Set UP/DOWN freq. ±21:Clear UP/DOWN freq. ±22:External fault (EF) ±23:Interruption of output(bb) ±24:Coast to stop(Fr) ±25:Holding command ±26:Speed trace from the maximum freq.	1
H1-03	Multi-function Input Terminal (X4)	±27:Speed trace from the setting freq. ±28:Sequential operation Start ±29:Pause command of sequential operation ±30:Holding command of sequential operation ±31:DC braking enable at stop ±32:Current limit enable	22
H1-04	Multi-function Input Terminal (X5)	±33:Secondary start command ±34:Secondary direction command ±35:Secondary frequency⊕ Secondary start⊕ Secondary direction ±36:PID integral reset ±37:PID integral hold ±38:PID enable ±39:Second PID parameter	17
H1-05	Multi-function Input Terminal (X6)	±40:PID softer start cancel ±41:Fast stop command ±42:LOCAL/ REMOTE select ±43:Field weakening ±44:Reserve ±45:Drive enable ±46:Forward/Reverse detection ±47:External overheat(OH3) ±48:Motor 2 select	0
H1-06	Multi-function Input Terminal (X7)	±49:Offset frequency 0 ±50:Offset frequency 1 ±51:Offset frequency 2 ±52:Counter input ±53:Counter clear ±54:Timer input ±55:Speed/torque control select ±56:External fault 1(EF1)	0
H1-07	Multi-function Input Terminal (X8)	±57:Reserve ±58:ASR gain select ±59:ASR integral reset ±60:Traverse function cancel ±61:Analog input selection ±62:PID enable ±63:Water tank full protection ±64:Fire mode ±65:Pressure lock ±66: ±67:KEB enable	0

Func.	Name	Range	dF60
H1-08	Response Time(X1)	1~500 mesc	10
H1-09	Response Time(X2)	1~500 mesc	10
H1-10	Response Time(X3)	1~500 mesc	10
H1-11	Response Time(X4)	1~500 mesc	10
H1-12	Response Time(X5)	1~500 mesc	10
H1-13	Response Time(X6)	1~500 mesc	10
H1-14	Response Time(X7)	1~500 mesc	10
H1-15	Response Time(X8)	1~500 mesc	10
H2-00	Multi-function digital output terminal (Y1)	0:Disable ±1:Detection during operation ±2:Constant speed detection ±3:Zero speed detection ±4:Frequency detection ±5:Overload detection (OLO) ±6:Stall prevention detection ±7:Low voltage (LE) ±8:Braking detection ±9:Restart after instant power failure detection ±10:Fault restart detection ±11:Error detection ±12:Sequential operation detection ±13:Step end at sequential operation ±14:Cycle end at sequential operation ±15:Sequential operation pause detection ±16:Sequential operation holding detection ±17:Counter value 1 detection ±18:Counter value 2 detection ±19:Counter over float detection ±20:Timer output ±21:Detection during reverse ±22:NTC detection(Ht) ±23:Fan operation detection ±24:Reserve ±25:PID feedback low detection ±26:PID feedback high detection ±27:PID sleep detection ±28:Analog input detection 1：Warn level detection ±29:Analog input detection 1：Fault level detection ±30:Analog input detection 2：Warn level detection ±31:Analog input detection 2：Fault level detection ±32:LOCAL/REMOTE status ±33:Drive ready ±34:Drive enable ±35:Fast stop detection ±36:Output interruption detection ±37:Speed trace detection ±38:Frequency detection (+/-) ±39:Frequency loss ±40:Torque detection 1 ±41:Torque detection 2 ±42:Motor 2 selection ±43:Traverse function detection ±44:Traverse function accel. detection ±45:Regeneration detection ±46:Torque limit detection ±47:Torque control speed limit detection ±48:Speed limit detection ±49:Reserve ±50:Reserve ±51:Pump over pressure detection ±52:KEB function detection	3
H2-01	Multi-function digital output terminal (Y2)		2
H2-02	Multi-function digital output terminal (Y3)		0
H2-03	Multi-function digital output terminal (Y4)		0
H2-04	Multi-function digital output terminal (Ta1,Tb1)		11
H2-05	Multi-function digital output terminal (Ta2,Tb2)		1
H2-06	Multi-function digital output terminal (FMP)		0

Func.	Name	Range	dF60
H3-01	Analog Input Selection (Vin1)	0: Disable 1: Frequency(before gain) 2: Frequency gain 3: Frequency bias(after gain) 4: Auxiliary frequency 1 5: Auxiliary frequency 2 6: Current limit 7: PID setpoint 8: PID feedback 9: Differential PID feedback 10: Output voltage adjustment of V/F pattern 11: Analog input protection 1 12: Analog input protection 2 13: Frequency limit 14: Forward torque limit 15: Reverse torque limit 16: Regeneration torque limit 17: Torque limit / Torque command 18: Torque compensation 19: Torque limit 20: Reserve 21: Water shortage protection input	1
H3-02	Gain (Vin1)	-10.000~10.000	1.000
H3-03	Bias (Vin1)	-10.000~10.000	0.00
H3-04	Input Range Selection (Vin1)	0:0~10 Vdc 1:-10~10 Vdc	0
H3-05	Response Time (Vin1)	0.000~50.000 sec	0.000
H3-06	Analog Input Selection (Vin2)	Please refer to H3-01	0
H3-07	Gain (Vin2)	-10.000~10.000	1.000
H3-08	Bias (Vin2)	-10.000~10.000	0.000
H3-09	Input Range Selection (Vin2)	0:0~10 Vdc 1:-10~10 Vdc	0
H3-10	Response Time (Vin2)	0.000~50.000 sec	0.000
H3-11	Analog Input Selection (lin)	Please refer to H3-01	0
H3-12	Gain (lin)	-10.000~10.000	1.000
H3-13	Bias (lin)	-10.000~10.000	0.000
H3-14	Input Range Selection (lin)	0: 4~20 mA 2: 0~10V 1: 0~20 mA	0
H3-15	Response Time (lin)	0.000~50.000 sec	0.000
H3-16	Offset (Vin1)	-1.000~1.000	0.000
H3-17	Offset(Vin2)	-1.000~1.000	0.000
H3-18	Offset (lin)	-1.000~1.000	0.000
H3-20	Analog Input Selection (Virtual Analog Input 1)	Please refer to H3-01	0
H3-21	Virtual Analog Input 1 Value	-1.000~1.000	0.000
H3-22	Analog Input Selection (Virtual Analog Input 2)	Please refer to H3-01	0
H3-23	Virtual Analog Input 2 Value	-1.000~1.000	0.000
H3-24	Analog Input Selection (H1-□□=±61)	\ OFF ON 0 All Disable 1 All Vin1 2 All Vin2 3 All Vin1+Vin2 4 All lin 5 All Vin1+lin 6 All Vin2+lin 7 Vin1+Vin2 lin 8 Vin1 Vin2 9 Vin1 lin 10 Vin2 Vin1+lin 11 Vin1 Vin2+lin 12 Vin2+lin Vin1+lin	0

Func.	Name	Range	dF60
H4-00	Analog Output Selection (FM+)	0: Disable 1: Output freq. 2: Output freq. with compensation 3: Freq. command 4: Output voltage 5: Output current 6: DC Bus voltage 7: Vin1 input signal 8: Vin2 input signal 9: lin input signal 10: KP Pot input signal 11: Pulse train input signal 12: PID set point 13: PID feedback 14: PID differential feedback 15: PID adjusted feedback 16: PID input 17: PID output 18: PID output2 19: Drive temperature 20: External temperature 21: Feedback freq.(PG) 22: Torque command	1
H4-01	Gain (FM+)	0~2.000	1.000
H4-02	Bias (FM+)	-1.000~1.000	0.000
H4-03	Analog Output Selection (AM+)	Refer to H4-00	5
H4-04	Gain (AM+)	0~2.000	1.000
H4-05	Bias (AM+)	-1.000~1.000	0.000
H4-07	Level Selection (AM+)	0:0~10V 1:0~20mA 2:4~20mA	1
H5-00	Comm. Address	0~254	0
H5-01	Comm. Baud Rate	1200 bps 19200 bps 2400 bps 38400 bps 4800 bps 57600 bps 9600 bps 76800 bps 14400 bps 115200 bps	9600
H5-02	Comm. Protocol	8, N, 1 8, E, 1 8, N, 2 8, O, 1	8N1
H5-03	Drive Transmit Delay Time	5~65 msec	10
H5-04	Comm. Overtime Disposal (Cot)	0:Ramp to stop 1:Coast to stop 2:Keep running	0
H5-05	Comm. Overtime (Cot)	0.0~100.0 sec	0
H5-06	Comm. protocol Selection	0:Modbus RTU 1:Modbus ASCII	0
H5-07	Parameters Modify Mode by Comm.	0:Store at EEPROM 1:Don't store at EEPROM	0
H6-00	Pulse Train Input Selection	0:None 1:Freq. command 2:PID feedback 3:PID set point 4:Speed feedback(H1-□□=±46)	0
H6-01	Pulse Train Input Scaling	100~32000 Hz	1440
H6-02	Pulse Train Input Gain	0.000~10.000	1.000
H6-03	Pulse Train Input Bias	-1.000~1.000	0.000
H6-04	Pulse Train Input Response Time	0.000~50.000 sec	0.010
H6-05	Pulse Train Monitor Selection	Please refer to H4-00	1
H6-06	Pulse Train Monitor Scaling	100~32000 Hz	1440

Func.	Name	Range	dF60
H6-07	Pulse Train Monitor Minimum Freq.	0.0~1000.0 Hz	0.0
L1-00	Current Limit constant (OL2)	0~255	0
L1-01	Grounding Protection constant (GF)	0~255	1
L1-02	Motor Overload Protection (OL)	0:Disable 1:Standard motor 2:Drive dedicated motor (external fan cooling)	1
L1-03	Motor Overload Protection Time	0~10.0 min	5.0
L1-04	Back-EMF Protection Level	0~100 %	0
L1-06	Overheating Warning Selection (OHt)	0: None 1: Keep running 2: Carrier reduction 3: Stop	2
L1-07	Overheating Warning Level (OHt)	45~105℃	70
L1-08	Drive Overheating Dead Band	0.1~10.0℃	3.0
L1-09	Fan Control Selection	0:Start the fan at power ON 1:Start the fan at running 2:Start the fan according to the setting of L1-10	1
L1-10	Temperature Level of Fan Activation	25~65℃	50
L1-11	Fan Off Delay Time	0.1~25.0 min	0.5
L1-12	System Overload Detection (OLO)	0:Disable 1:Enable	0
L1-13	System Overload Detection Mode	0:During constant speed 1:During operation	0
L1-14	Output Setting after System Overload	0:Keeps operation 1:Trips to protection	0
L1-15	System Overload Detection Level	30~200%	160
L1-16	System Overload Detection Time	0.1~300.0 sec	0.1
L1-17	Dynamic Braking Selection	0:Off 2:On,"DBOH" alarm 1:On 3:On,"DBOH" fault	1
L1-18	Dynamic Braking Active Level	350~410V (220V series) 700~820V (380V series)	380 760
L1-19	Brake Resistor Pulse Setting	10~90%	50
L1-20	Input Phase Loss Protection Selection	0:Disable 1:Enable	1
L1-21	Output Phase Loss Protection Selection	0:Disable 1:Enable	1
L1-22	Current Limit Level	0.10~2.00	2.00
L1-23	NTC Thermistor	0:Enable 1:Disable,start the fan at power on 2:Disable,Start the fan at running	0
L1-24	Warring Temperature of Braking Resistor	10~255℃	120
L1-25	Resistance of Braking Resistor	0.01~500.00Ω	400.00

Func.	Name	Range	dF60
L1-26	Rated power of Braking Resistor	0.1~1000.0kW	0.1
L1-27	Temperature of Braking Resistor At Rated Power	1~1000℃	170
L2-00	Operation Selection at Instant Power Failure	0:Drive cannot restart 1:Drive restart 2:Ramp to stop 3:Restart if the power restore during ramp to stop 4:Ramp to stop with KEB (Enable when start command is on) 5:Ramp to stop with KEB and drive restart 6:Ramp to stop with KEB 7.Drive restart from 0 Hz	0
L2-02	Subtracted Freq. of Ramp to Stop by Power Failure	0.0~20.0 Hz	0.5
L2-03	Deceleration Time 1 of Ramp to Stop by Power Failure	0.0~3200.0 sec	25.0
L2-04	Deceleration Time 2 of Ramp to Stop by Power Failure	0.0~3200.0 sec	25.0
L2-05	Switching Freq. of Ramp to Stop by Power Failure	0.0~400.0 Hz	0.0
L2-06	KEB setpoint DC Voltage	150~250V (220V series) 300~500V (380V series)	250.0 450.0
L2-07	KEB PI Gain (Kp)	0.000~5.000	0.12
L2-08	KEB PI Integral (Ki)	0.00~50.00	1.00
L2-09	KEB PI Limit	0.0~120.0Hz	60.0
L2-10	LE Detection time	0~250 ms	50
L3-00	Stall Prevention Level at Acceleration	30~200%	170
L3-01	Stall Prevention Level at Constant Speed	30~200%	160
L3-02	Acceleration Time after Stall Prevention under Constant Speed	0.1~3200.0 sec	15.0
L3-03	Deceleration Time for Stall Prevention under Constant Speed	0.1~3200.0 sec	15.0
L3-04	Stall Prevention at Deceleration	0:Disable 1:Enable	1
L3-05	Stall Prevention Delay Time	0~5000 msec	100
L3-06	Overvoltage Suppression Selection	0:Disable 1:Enable 2:Enable at constant speed	0
L3-07	Overvoltage Suppression Active Level	310~400V(220V series) 540~800V(380V series)	360 620
L3-08	Overvoltage Suppression Frequency Limit	0.0~30.0Hz	12.0
L3-09	Overvoltage Suppression P Gain	0.000~5.000	0.200
L3-10	Overvoltage Suppression I Gain	0.00~50.00	10.00
L4-00	Constant Speed Detection Range	0.0~20.0 Hz	2.0
L4-01	Freq. Detection Level	0.0~400.0 Hz	0.0
L4-02	Freq. Detection Range	0.0~20.0 Hz	2.0

Func.	Name	Range	dF60
L4-03	Freq. Detection Level (+/-)	-400.0~400.0 Hz	0.0
L4-04	Freq. Detection Range (+/-)	0.0~20.0 Hz	2.0
L4-05	Freq. Detection Selection	0:Disable at baseblock (bb) 1:Enable at baseblock(bb)	1
L4-06	Freq. Command Loss Detection Selection	0:None 1:Stop 2:Keep running according to the L4-07.	0
L4-07	Freq. Command at Freq. Command Loss	0.000~1.000	0.800
L4-10	Torque Detection Selection 1	0:Disable 1:Detect OL3 at constant speed (Alarm) 2:Detect OL3 at running (Alarm) 3:Detect OL3 at constant speed (Fault) 4:Detect OL3 at running (Fault) 5:Detect UL3 at constant speed (Alarm) 6:Detect UL3 at run (Alarm) 7:Detect UL3 at constant speed (Fault) 8:Detect UL3 at running (Fault)	0
L4-11	Torque Detection Level 1	0.00~3.00	1.50
L4-12	Torque Detection Time 1	00.~300.0 sec	0.1
L4-13	Torque Detection Selection 2	0:Disable 1:Detect OL4 at constant speed.(Alarm) 2:Detect OL4 at runnig (Alarm) 3:Detect OL4 at constant speed (Fault) 4:Detect OL4 at running (Fault) 5:Detect UL4 at constant speed (Alarm) 6:Detect UL4 at running (Alarm) 7:Detect UL4 at constant speed (Fault) 8:Detect UL4 at running (Fault)	0
L4-14	Torque Detection Level 2	0.00~3.00	1.50
L4-15	Torque Detection Time 2	0.0~300.0 sec	0.1
L5-00	Fault Restart Selection	0:Resart immediately after the fault is reset 1:Restart after the setting time in L5-02 PS. Only for OC、OE、GF	0
L5-01	Auto-restart Times Setting	0~16	0
L5-02	Fault Restart Interval Time	0.5~600.0 sec	10.0
L5-03	Output Terminal Selection During Auto Fault Restart	0:No detection 1:Detection	0
L5-04	Fault Auto-Reset Selection	0:Disable 1:Enable PS: Only for LE1,HF1,HF2	0
L6-00	Analog Input Detection 1 Fault Level (A1 Err)	0.000~1.000	0.000
L6-01	Analog Input Detection 1 Warn Level (A1 Warn)	0.000~1.000	0.000

Func.	Name	Range	dF60
L6-02	Analog Input Detection 1 Warn Dead Band	0.000~1.000	0.000
L6-03	Analog Input Detection 1 Warn Mode	0: None, digital output only 1: Warn 2: Ramp to stop 3: Coast to stop	0
L6-04	Analog Input Detection 2 Fault Level (A2 Err)	0.000~1.000	0.000
L6-05	Analog Input Detection 2 Warn Level (A2 Warn)	0.000~1.000	0.000
L6-06	Analog Input Detection 2 Warn Dead Band	0.000~1.000	0.000
L6-07	Analog Input Detection 2 Warn Mode	0:None, digital output only 1:Warn 2:Ramp to stop 3:Coast to stop	0
L6-08	External fault 1 (EF1) Selection	0:None 1:Warn 2:Ramp to stop 3:Coast to stop 4:Coast to stop + DC braking	1
L6-09	External fault 1 (EF1) Detection	0:Detection all the time 1:Detect during operation	1
L6-10	Motor Thermistor	0:PTC (Ω) 1:NTC (Ω) 2:PT100(℃)+100Ω resistor 3:RTD392(℃)+100Ω resistor 4:KTY84/130(℃)	0
L6-11	Motor Overheat Protection Resistor Level (OH2)	0.00~100.00kΩ	0.00
L6-12	Motor Overheat Warning Resistor Level (OH1)	0.00~100.00kΩ	0.00
L6-13	Motor Overheat Warning Selection (OH1)	0:Keep running 1:Ramp to stop	0
L6-14	Motor Overheat Protection Temperature Level (OH2)	40~160℃	120
L6-15	Motor Overheat Warning Temperature Level (OH1)	40~160℃	90
L7-00	Forward Torque Limit	0.00~3.00	2.00
L7-01	Reverse Torque Limit	0.00~3.00	2.00
L7-02	Forward Regeneration Torque Limit	0.00~3.00	2.00
L7-03	Reverse Regeneration Torque Limit	0.00~3.00	2.00
P1-00	Sequence Control Mode	0:Direct Change 1:Stop before Change	0
P1-01	Sequence Control Direction	0:Single direction 1:Dual direction	0
P1-02	Sequence Control Cycle	1~9998:Number of cycle time 9999:Infinite cycles	1
P1-03	Accel/Decel Time Unit for Sequential Control	0:second 1:minute 2:hour	0
P1-04	Hold Time Unit for Sequential Control		0
P1-05	Accel/Decel Time of Sector 0	0.0~360.0	0.0
P1-06	Hold Time of Sector 0	0.0~360.0	0.0

Func.	Name	Range	dF60
P1-07	Accel/Decel Time of Sector 1	0.0~360.0	0.0
P1-08	Hold Time of Sector 1	0.0~360.0	0.0
P1-09	Accel/Decel Time of Sector 2	0.0~360.0	0.0
P1-10	Hold Time of Sector 2	0.0~360.0	0.0
P1-11	Accel/Decel Time of Sector 3	0.0~360.0	0.0
P1-12	Hold Time of Sector 3	0.0~360.0	0.0
P1-13	Accel/Decel Time of Sector 4	0.0~360.0	0.0
P1-14	Hold Time of Sector 4	0.0~360.0	0.0
P1-15	Accel/Decel Time of Sector 5	0.0~360.0	0.0
P1-16	Hold Time of Sector 5	0.0~360.0	0.0
P1-17	Accel/Decel Time of Sector 6	0.0~360.0	0.0
P1-18	Hold Time of Sector 6	0.0~360.0	0.0
P1-19	Accel/Decel Time of Sector 7	0.0~360.0	0.0
P1-20	Hold Time of Sector 7	0.0~360.0	0.0
P1-21	Accel/Decel Time of Sector 8	0.0~360.0	0.0
P1-22	Hold Time of Sector 8	0.0~360.0	0.0
P1-23	Accel/Decel Time of Sector 9	0.0~360.0	0.0
P1-24	Hold Time of Sector 9	0.0~360.0	0.0
P1-25	Accel/Decel Time of Sector 10	0.0~360.0	0.0
P1-26	Hold Time of Sector 10	0.0~360.0	0.0
P1-27	Accel/Decel Time of Sector 11	0.0~360.0	0.0
P1-28	Hold Time of Sector 11	0.0~360.0	0.0
P1-29	Accel/Decel Time of Sector 12	0.0~360.0	0.0
P1-30	Hold Time of Sector 12	0.0~360.0	0.0
P1-31	Accel/Decel Time of Sector 13	0.0~360.0	0.0
P1-32	Hold Time of Sector 13	0.0~360.0	0.0
P1-33	Accel/Decel Time of Sector 14	0.0~360.0	0.0
P1-34	Hold Time of Sector 14	0.0~360.0	0.0
P1-35	Accel/Decel Time of Sector 15	0.0~360.0	0.0
P1-36	Hold Time of Sector 15	0.0~360.0	0.0
P1-37	Sequence Control Direction	0~FFFF	0000
P1-38	Sequence Control Pause Resume Mode	0:Resume from the pause point 1:Resume from the beginning of the stage	0
P1-39	Sequence Control Pause Mode	0:Pause with stop command 1:Pause without stop command	0

Func.	Name	Range	dF60
P2-00	Traverse Mode	0:Disable 1:Enable during constant speed 2:Enable during operation	0
P2-01	Traverse Amplitude	0.00~0.20	0.00
P2-02	Traverse Step	0.00~0.50%	0.000
P2-03	Traverse Step Time	0.000~0.500 sec	0.000
P2-04	Traverse Deceleration Time	0.0~120.0 sec	0.0
P2-05	Traverse Acceleration Time	0.0~120.0 sec	0.0
o1-00	Gain (D-Axis Current)	0.01~10.00	1.00
o1-01	Gain (Q-Axis Current)	0.01~10.00	1.00
o1-02	Gain (Flux)	0.01~5.00	1.00
o1-04	Proportional Gain (D-Axis Current)	0.000~60.000	0.700
o1-05	Integral Gain (D-Axis Current)	0.0000~60.000	150.0
o1-06	Proportional Gain (Q-Axis Current)	0.000~60.000	0.700
o1-07	Integral Gain (Q-Axis Current)	0.0~6000.0	150.0
o1-08	Proportional Gain (Flux)	0.000~60.000	2.000
o1-09	Integral Gain (Flux)	0.00~600.00	10.00
o1-10	Auto Tuning Acceleration Time (Rotational)	0.0~30.0 sec	5.0
o1-11	Motor PWM Dead time	0~400	90
o1-12	Motor PWM Deadtime Smooth Angle	0.0~20.0	6.0
o1-13	Current Value of Turing Point in Deadtime Compensation	0.00~1.00	0.00
o1-14	Motor Current Angle Offset	-30.0~30.0	1.5
o1-15	Motor Current Angle LPF Constant (Numerator)	1~5000	64
o1-17	Anti-Windup	0:Disable 1:Enable	0
o1-18	Flux Weakening Low Pass Filter	0.0~6000.0	100.0
O1-19	DPWM Function	0:OFF 1:ON	1

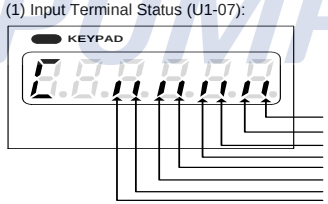
Monitor Parameter List

Func.	Name	Description
U1-00	Control Method	0:V/F Control 1:V/F Control + PG card 2:Vector Control 3:Vector Control + PG card 4:PM control + Resolver 5:PM control + Encoder 6:PM Control 1 (I/F+EMF) 7:PM Control 2 (HFI+EMF) 9:Reserve 11:Reserve
U1-01	Freq. Command	Display the frequency command (Hz)
U1-02	Output Freq.	Display the output frequency (Hz)
U1-03	Output Voltage	Display the output voltage (V)
U1-04	Output Current	Display the output current (A)
U1-05	DC bus Voltage	Display the DC bus Voltage (V)
U1-06	Drive Temperature	Displays the drive temperature (℃)
U1-07	Input Terminal Status	Please refer to note 1
U1-08	Output Terminal Status	Please refer to note 2
U1-09	Motor Speed	Display RPM of motor (Estimated from the output frequency)
U1-10	Power Factor	Display the power factor
U1-11	Power Factor Angle	Display the power factor angle
U1-12	Output Frequency with Compensation	Display the output frequency with compensation (Hz)
U1-13	Drive Status	Please refer to note 3
U1-14	Output Power	Display the output power.
U1-15	Torque Output %	Display torque commands as a percentage during vector control.
U1-16	Frequency command %	Display the frequency command as a percentage.
U1-17	Output Frequency %	Display the output frequency as a percentage.
U1-18	Output Power %	Display the output power as a percentage.
U1-19	Error Code (Now)	Display the current fault.
U1-20	Warning Code (Now)	Display the current warning.
U1-21	Torque Command %	Display torque commands as a percentage.
U1-22	Torque Compensation %	Display the torque compensation as a percentage.
U1-24	MPM 0 Command	Display the machine speed command 0.
U1-25	Monitor MPM 0	Display the output machine speed 0.
U1-26	MPM 1 Command	Display the machine speed command 1.
U1-27	Monitor MPM 1	Display the output machine speed 1.
U1-28	MPM 2 Command	Display the machine speed command 2.
U1-29	Monitor MPM 2	Display the output machine speed 2.
U1-30	Salience Ratio of HFI	Display the Salience Ratio of HFI
U1-31	PM Estimated Speed (Besides IF Mode)	Display the PM estimated speed expect IF mode.
U1-32	PM Estimated Speed (For IF Mode)	Display the PM estimated speed in IF mode.
U1-33	PM Estimated Back-EMF Constant	Display the estimated back-EMF constant.
U1-35	Hall Sensor Position Feedback	Display the position feedback from the hall sensor.
U1-36	Hall Sensor Speed Feedback	Display the speed feedback from the hall sensor.
U1-37	Hall Sensor Angle Feedback	Display the angle feedback from the hall sensor.
U2-00	Fault History Item	Display the fault history item set by A5-00
U2-01	Error Code	Display the error code of U2-00
U2-02	Frequency command	Display the frequency command at U2-00 (Hz)
U2-03	Output Freq.	Display the output frequency at U2-00 (Hz)
U2-04	Output Voltage	Display the output voltage at U2-00 (V)
U2-05	Output Current	Display the output current at U2-00 (A)
U2-06	DC Bus Voltage	Display the DC bus voltage at U2-00 (V)
U2-07	Drive Temperature	Display the drive temperature at U2-00 (℃)
U2-08	Cumulative Operation Time	Display the cumulative operation time at U2-00 (hr)
U2-09	Operation Status	Display the operation status at U2-00
U2-10	Input Terminal Status	Display the input terminal at U2-00
U2-11	Output Terminal Status	Display the output terminal at U2-00
U2-12	Feedback Freq. from PG	Display the feedback frequency at U2-00 (Hz)
U2-13	Torque Command	Display the torque command at U2-00(%)
U2-14	U Phase Motor Current	Display the U phase motor current at U2-00(A)
U2-15	V Phase Motor Current	Display the V phase motor current at U2-00(A)
U2-16	W Phase Motor Current	Display the W phase motor current at U2-00(A))
U3-00	Fault History 0	Display the latest fault code.
U3-01	Fault History 1	Display the second last fault code.
U3-02	Fault History 2	Display the third last fault code.
U3-03	Fault History 3	Display the fourth last fault code.
U3-04	Fault History 4	Display the fifth last fault code.
U3-05	Fault History 5	Display the sixth last fault code.
U3-06	Fault History 6	Display the seventh last fault code.
U3-07	Fault History 7	Display the eighth last fault code.
U3-08	Fault History 8	Display the ninth last fault code.
U3-09	Fault History 9	Display the tenth last fault code.
U4-00	Cumulative Power On Time	Display the cumulative power on time (hr)
U4-01	Cumulative Operation Time	Display the cumulative operation time (hr)
U4-02	Cooling Fan Operation Time	Display the cumulative operation time of the cooling fan (hr)
U4-03	Cooling Fan Maintenance	Display the cooling fan operation time as a percentage (%)
U4-07	Motor Overload Estimate (OL)	Shows the value of the motor overload detection accumulator (%)
U4-08	kWh Lower Digit	Display the output power usage. Take 12345678.9kWh for example: U4-08:678.9kWh U4-09:12345MWh
U4-09	kWh upper Digit	
U4-10	Frequency Command from Communication	Display the frequency command from the Modbus communication (Hz)
U4-11	Frequency Command from option card	Display the frequency from the option card.

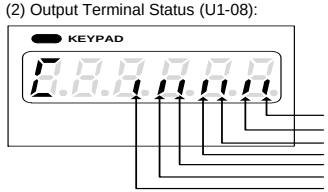
Func.	Name	Description
U4-12	Frequency Command Source	Display the frequency command source Display format: XY-nn X:Frequency Command 0=Local 1=Primary Frequency (b1-00) 2=Secondary Frequency (b1-01) Y-nn: Source 0-00=Keypad 1-00 to 1-15=Preset speed (d1-00 to d1-15) 2-00 to 2-15=Analog input and preset speed 3-00=Modbus Communication 4-00=Pulse in
U4-13	Start Command Source	Display the start command source Display format: XY-nn X:Start command 0=Local 1=Primary start command (b1-02) 2=Primary start command (b1-03) Y:Source 0:Keypad 1:Muti-function 2:Communication nn:Start command limit status 00:No limit status 01:Start command on at power on 02:Start command on at local/remote switch 03:Start command on during under voltage 04:Fast stop
U4-14	Feedback Freq.	Display the feedback frequency
U4-15	Freq. Command	Display the frequency command
U4-16	Input Level (Vin1)	Display the input level of Vin1
U4-17	Input Level (Vin2)	Display the input level of Vin2
U4-18	Input Level (Iin)	Display the input level of Iin
U4-19	Input Level (Keypad Pot)	Display the input level of keypad pot
U4-20	Input Level (Pulse Train)	Display the input level of pulse train
U4-21	External Temperature Resistor	Display the value of external temperature sensor(kΩ)
U4-22	External Temperature	Display the value of external temperature sensor.(℃)
U4-23	UP/DOWN Set Frequency	Display the UP/DOWN frequency adjustment (Hz)
U4-24	The Value of Counter(PG)	Display the counter value from PG
U4-25	Torque Command from Comm.	Display the torque command set by communication (%)
U4-26	Torque Compensation from Comm.	Display the torque compensation set by communication (%)
U5-01	PID Setpoint	Display the PID setpoint (%)
U5-02	PID Feedback	Display the feedback of PID control (%)
U5-03	PID Differential Feedback	Display the PID differential feedback (%)
U5-04	PID Adjusted Feedback	Display the PID adjusted feedback. (%)
U5-05	PID Input	Display the PID input (%)
U5-06	PID Output	Display the PID output (%)
U5-07	PID Output 2	Display the PID output 2 (%)
U5-08	PID Cumulative Integral Value	Display the PID cumulative integral value (%)
U6-01	Motor q-Axis Current	Displays the output value for current control relative to motor secondary current (%)
U6-02	Motor d-Axis Current	Displays the output value for current control relative to motor exciting current (%)
U6-03	Output Voltage Command (Vq)	Output voltage command for the q-Axis (Vac)
U6-04	Output Voltage Command (Vd)	Output voltage command for the d-Axis (Vac)
U6-05	Offset Frequency	Display the offset frequency
U7-01	Sequence Control: Cycle	Display the current number of sequence control cycle
U7-02	Sequence Control: Step	Display the current section of sequence control
U7-03	Digital Input Counter Value	Display the value of digital input counter
U7-04	Analog Input Current Limit	Display the current limit from analog input (A)
U7-05	Fault Restart Count	Display the count value of the Fault restart
U8-00	Software Version	Display the version of software
U8-01	Software CRC	Display the CRC code of software
U8-02	Parameter List CRC	Display the parameter list CRC code
U8-03	Parameter CRC	Display the parameter CRC code
U8-04	Drive HP	Display the drive horse power (HP)
U8-05	Drive Rated Current	Display the drive rated current.(A)
U8-10	Option Card 1 Name	Display the name of option card 1
U8-11	Option Card 1 Type	Display the type of option card 1
U8-12	Option Card 1 Version	Display the version of option card 1
U8-13	Option Card 1 CRC	Display the CRC code of option card 1
U8-14	Option Card 1 Status	Display the status of option card 1
U8-15	Option Card 2 Name	Display the name of option card 2
U8-16	Option Card 2 Type	Display the type of option card 2
U8-17	Option Card 2 Version	Display the version of option card 2
U8-18	CRC Option Card 2	Display the CRC code of option card 2
U8-19	Option Card 2 Status	Display the status of option card 2

Note:

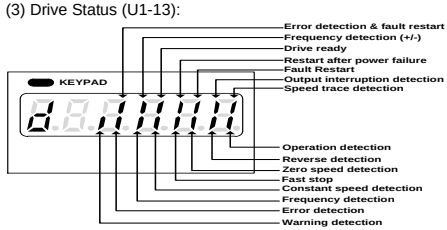
(1) Input Terminal Status (U1-07):



(2) Output Terminal Status (U1-08):

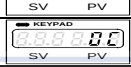
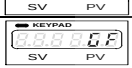
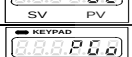
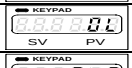
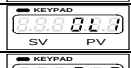


(3) Drive Status (U1-13):



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Error Trip Messages of Drive

Display	Description	Display	Description
	EEPROM Error		Keypad connection interrupted
	EEPROM Error 0		Drive overheat
	A/D converter error		Motor overheat
	Fuse open		Drive overheat
	Analog input protection 1		Analog input protection 2
	Under voltage during operation		Drive over current
	Grounding fault		Input phase loss
	Over voltage		Output phase loss
	PG open-circuit		NTC thermistor sensor fault
	Operation command fault		Start command lock 2 (Power ON/OFF)
	Start command lock 3 (Local/Remote)		Safe signal protection 1
	Safe signal protection 2		External fault
	External fault 0		External fault 1
	Motor overload		Drive Overload
	Current limit		Motor over torque 1
	Motor over torque 2		System overload
	Motor under torque 1		Motor under torque 2
	Speed deviation		Over speed
	PID feedback too high		PID feedback too low
	PID feedback signal error		Over pressure
	Water shortage protection		Water shortage protection restart countdown
	Communication overtime		

Warning Messages of Drive

Display	Description	Display	Description
	Power source under voltage		Keypad cable trip (before connecting)
	Drive output interruption		Keypad cable trip (connected)
	Coast to stop		Analog input warn 1
	Over voltage at stop		Analog input warn 2
	Motor overheat warn		Direction command error
	Drive overheat		External device overheat
	Communication overtime		

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