

Kinco[®]

FV100

Series VFD

用户使用手册
USER'S MANUAL

目录

第一章 安全信息.....	2
第二章 产品介绍.....	3
2.1 铭牌介绍.....	3
2.2 型号说明.....	3
2.3 外形尺寸及毛重.....	4
2.3.1 变频器的外形尺寸及毛重.....	4
2.3.2 操作面板及安装盒尺寸.....	6
第三章 安装环境及外围配置.....	7
第四章 变频器的配线安装指导.....	8
4.1 主回路端子配线及配置	8
4.1.1 主回路输入输出端子类型.....	8
4.1.2 基本运行配线连接.....	9
4.2 控制回路配线及配置.....	9
4.2.1 控制回路端子的接线.....	9
第五章 变频器快速操作指南.....	12
5.1 变频器操作面板.....	12
5.1.1 操作面板的外观及按键功能说明.....	12
5.1.2 LED 数码管及指示灯说明	13
5.1.3 操作面板的显示状态.....	13
5.1.4 操作面板的操作方法.....	13
第六章 故障、告警对策及异常处理.....	14
第七章 功能码简表.....	15

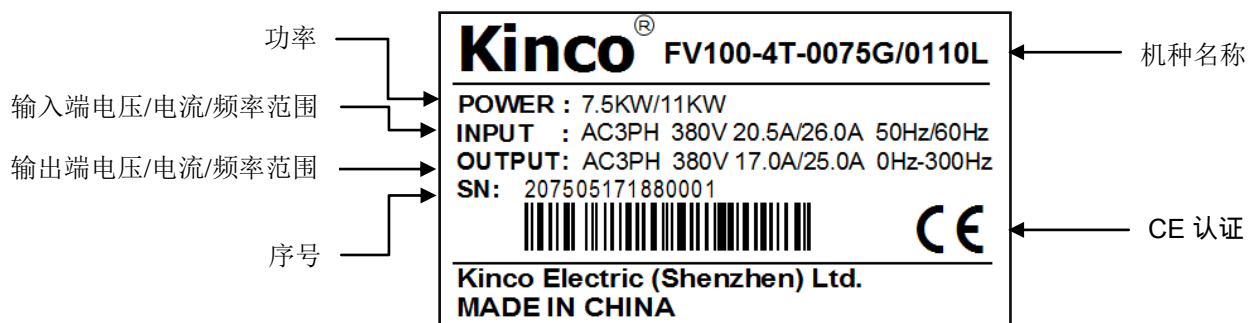
第一章 安全信息

 危险	 注意
• 必须由具有专业资格的人进行配线作业，否则有触电的危险。 • 应在断开电源 10 分钟后进行维护操作，此时充电指示灯彻底熄灭或确认正负母线电压在 36V 以下，否则有触电的危险。 • 操作配线或者安装变频器时，请确认电源是否关闭，否则有触电的危险。 • 禁止自行改装变频器内部的零件或线路。	• 严禁安装在水管等可能产生水滴飞溅的场合，否则有损坏财物的危险。 • 不要将螺钉、垫片及金属棒之类的异物掉进变频器内部，否则有火灾及损坏财物的危险。 • 不要安装在阳光直射的地方，否则有损坏财物的危险。 • 不要将+//B1 与—短接，否则有发生火灾和损坏财物的危险。 • 严禁将控制端子中 R1a、R1b、R1c 以外的端子接上交流 220V 信号，否则有损坏财物的危险。 • B1 和 B2 端子之间用于连接制动电阻，不允许短路，否则可能会造成变频器制动单元损坏。

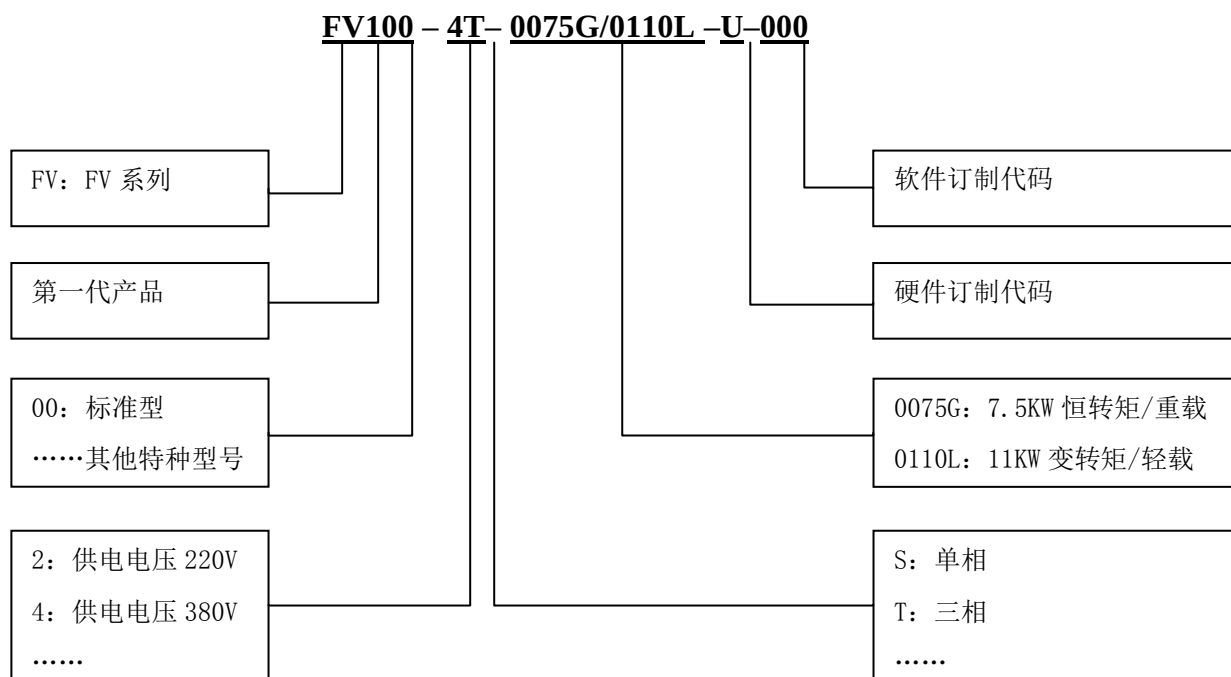
第二章 产品介绍

本章介绍了 FV100 系列的产品规格、型号、结构等基本产品信息。

2.1 铭牌介绍



2.2 型号说明



2.3 外形尺寸及毛重

2.3.1 变频器的外形尺寸及毛重

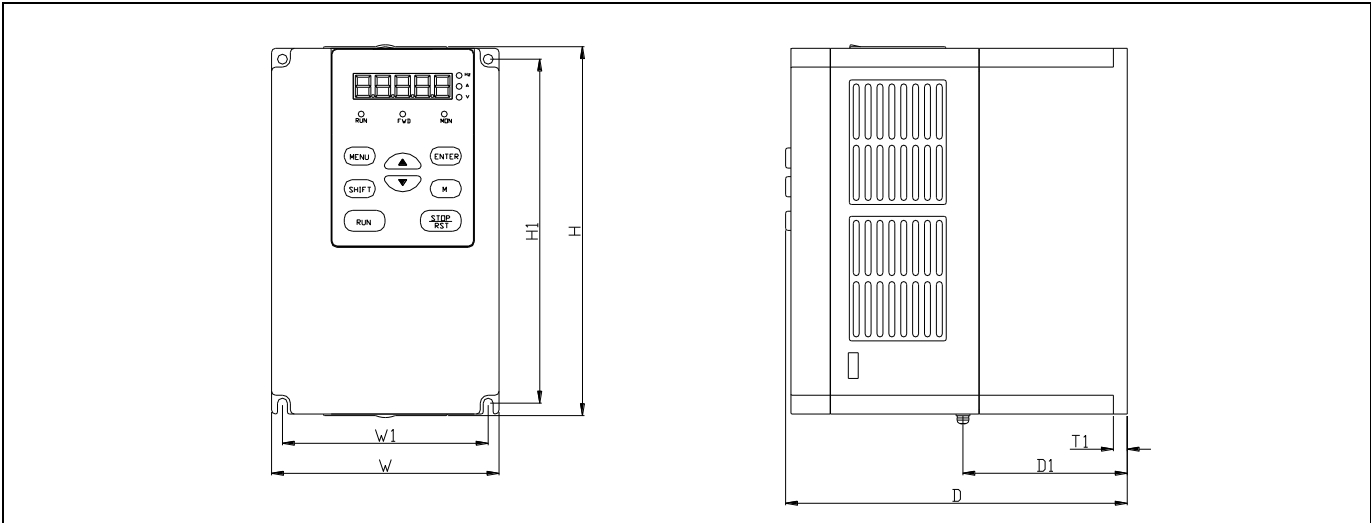


图 2-1 FV100-4T-0037G/0055L 以下功率变频器

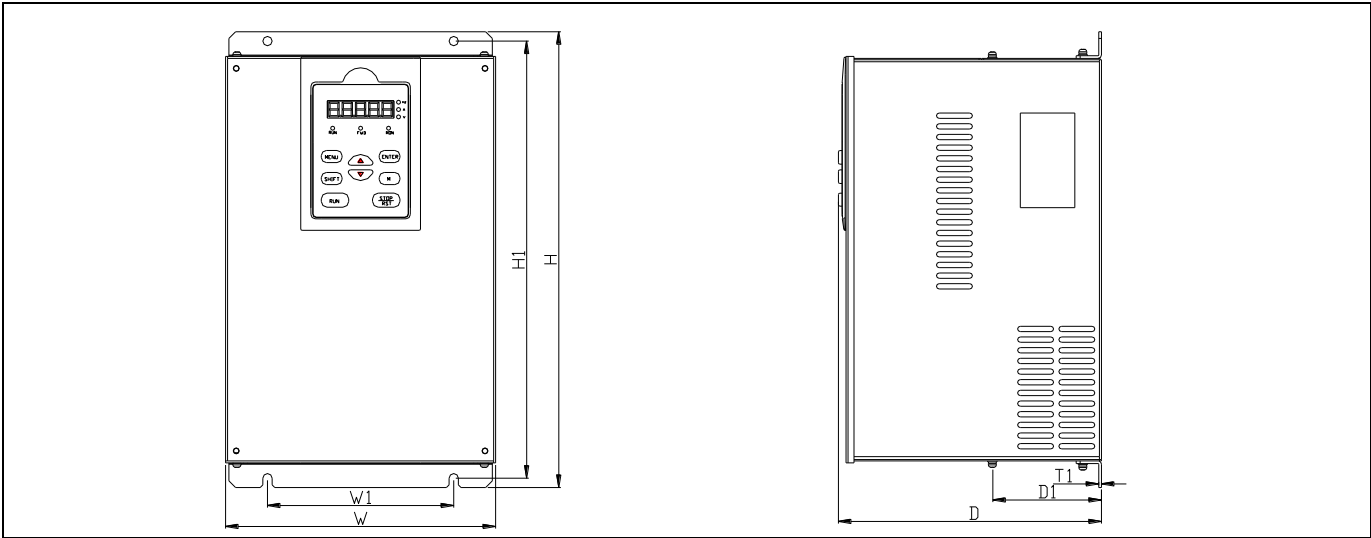


图 2-2 FV100-4T-0055G/0075L~FV100-4T-4000G/4500L

表 2-1 机械参数表

变频器型号 (G:恒转矩负载; L:风机水泵负载)	外形和安装尺寸(mm)								大概重量 (毛重、kg)
	W	H	D	W1	H1	D1	T1	安装孔 d	
FV100-2S-0004G	115	185	171	106	176	65	7	5	2
FV100-2S-0007G									
FV100-2S-0015G									
FV100-2S-0022G									
FV100-2T-0004G									
FV100-2T-0007G									
FV100-2T-0015G									
FV100-2T-0022G									
FV100-2T-0037G									
FV100-4T-0007G/0015L									
FV100-4T-0015G/0022L									
FV100-4T-0022G/0037L									
FV100-4T-0037G/0055L									
FV100-2T-0055G	165	274	193	110	264	-	2	6	6
FV100-2T-0075G									
FV100-4T-0055G/0075L	165	274	193	110	264	-	2	6	6
FV100-4T-0075G/0110L									
FV100-2T-0110G	194	324	197	120	312	-	2	6	8
FV100-4T-0110G/0150L									
FV100-4T-0150G/0185L									
FV100-4T-0185G/0220L									
FV100-2T-0150G	297	451	224	200	433	-	3	7	18
FV100-2T-0185G									
FV100-2T-0220G									
FV100-4T-0220G/0300L									
FV100-4T-0300G/0370L									
FV100-4T-0370G/0450L	320	535	224	220	512	88.5	3	10	31
FV100-4T-0450G/0550L									
FV100-4T-0550G/0750L	373	649	262	240	628	102.5	3	10	42
FV100-4T-0750G/0900L									

FV100-4T-0900G/1100L	440	758	285	340	737	102	2.5	11	73
FV100-4T-1100G/1320L	430	780	330	280	755	168	3	11	76
FV100-4T-1320G/1600L									
FV100-4T-1600G/1850L	530	940	380	340	910	206	4	14	114
FV100-4T-1850G/2000L									
FV100-4T-2000G/2200L									
FV100-4T-2200G/2500L	690	1006	380	500	974	207	4	14	156
FV100-4T-2500G/2800L									
FV100-4T-2800G/3150L									
FV100-4T-3150G/3550L	810	1228	400	520	1196	209	4	14	225
FV100-4T-3550G/4000L									
FV100-4T-4000G/4500L									

2.3.2 操作面板及安装盒尺寸

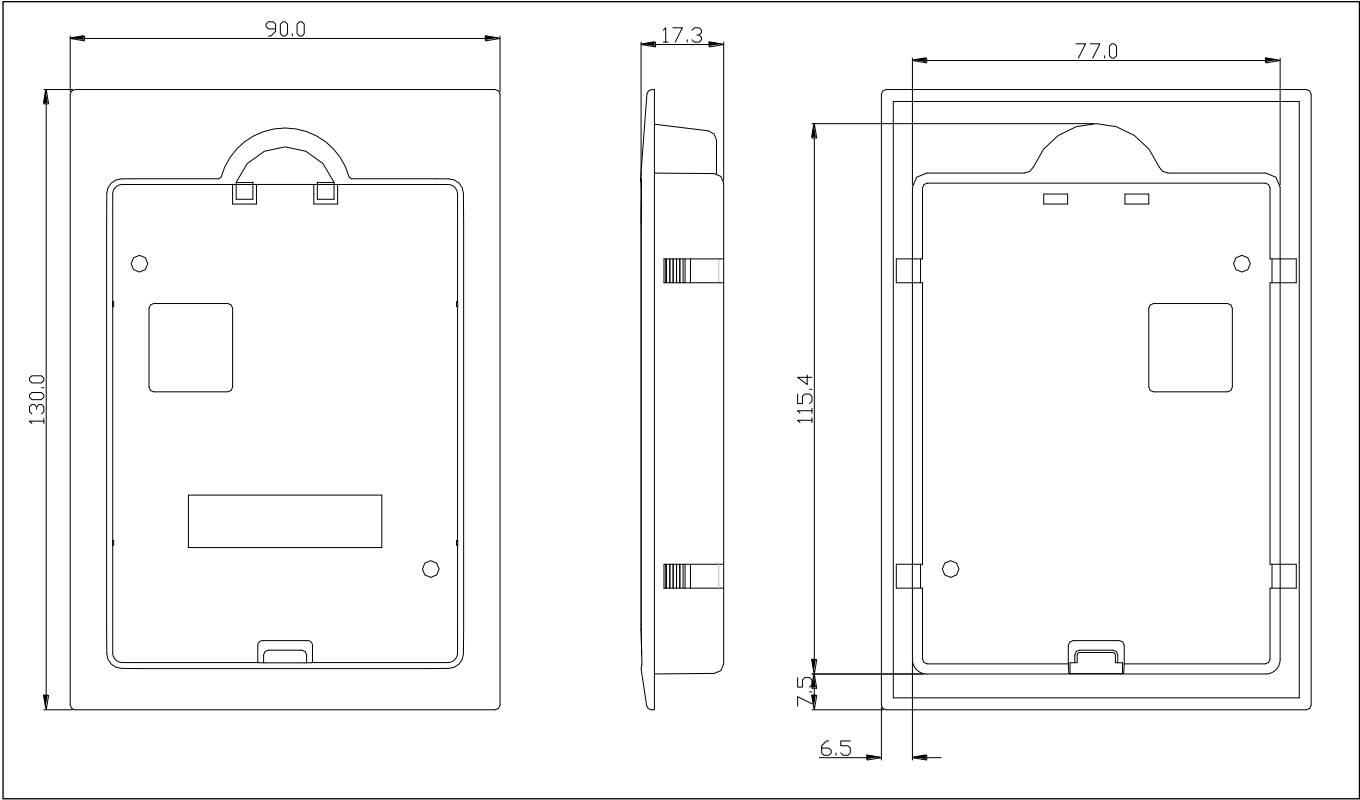


图 2-3 安装盒尺寸

第三章 安装环境及外围配置

安装间隔及距离要求，如图 3-1 和图 3-2 所示。

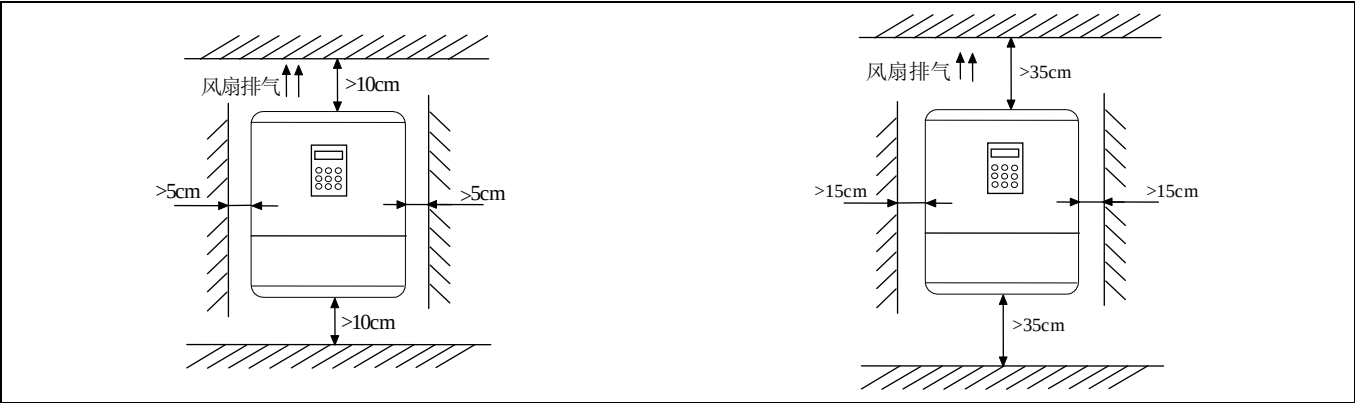


图 3-1 安装的间隔距离(0450G/0550L 及以下) 图 3-2 安装的间隔距离(0550G/0750L 及以上)

两台变频器采用上下安装时，中间应用导流隔板，如图 3-3 所示。

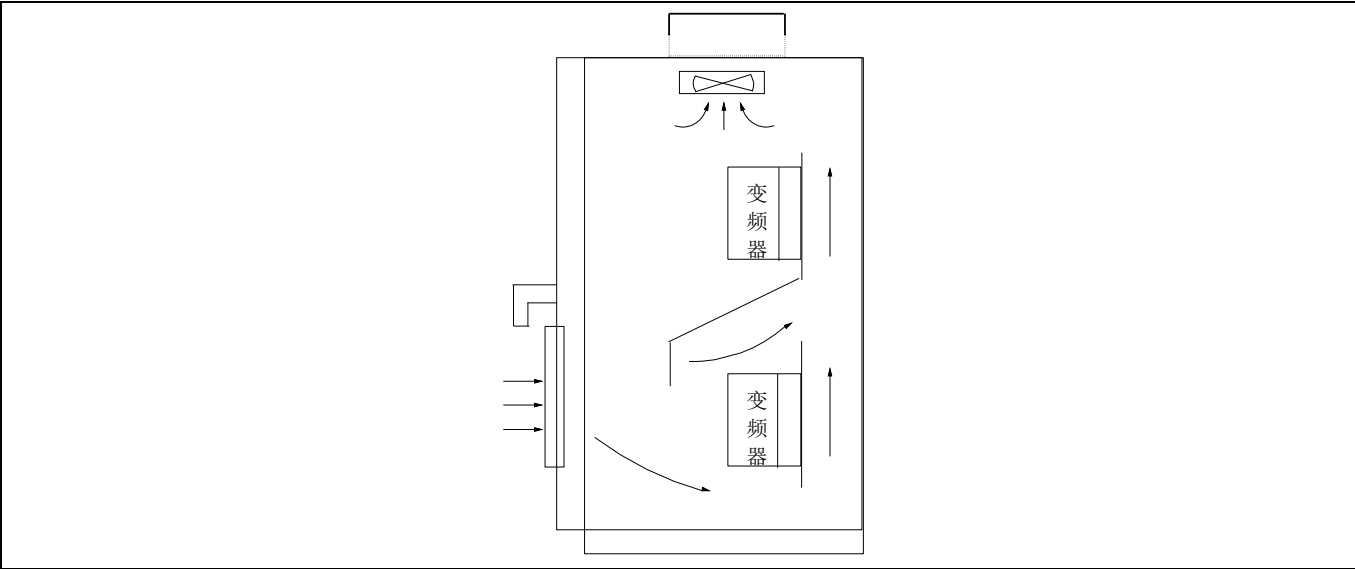


图 3-3 多台变频器的安装

第四章 变频器的配线安装指导

4.1 主回路端子配线及配置

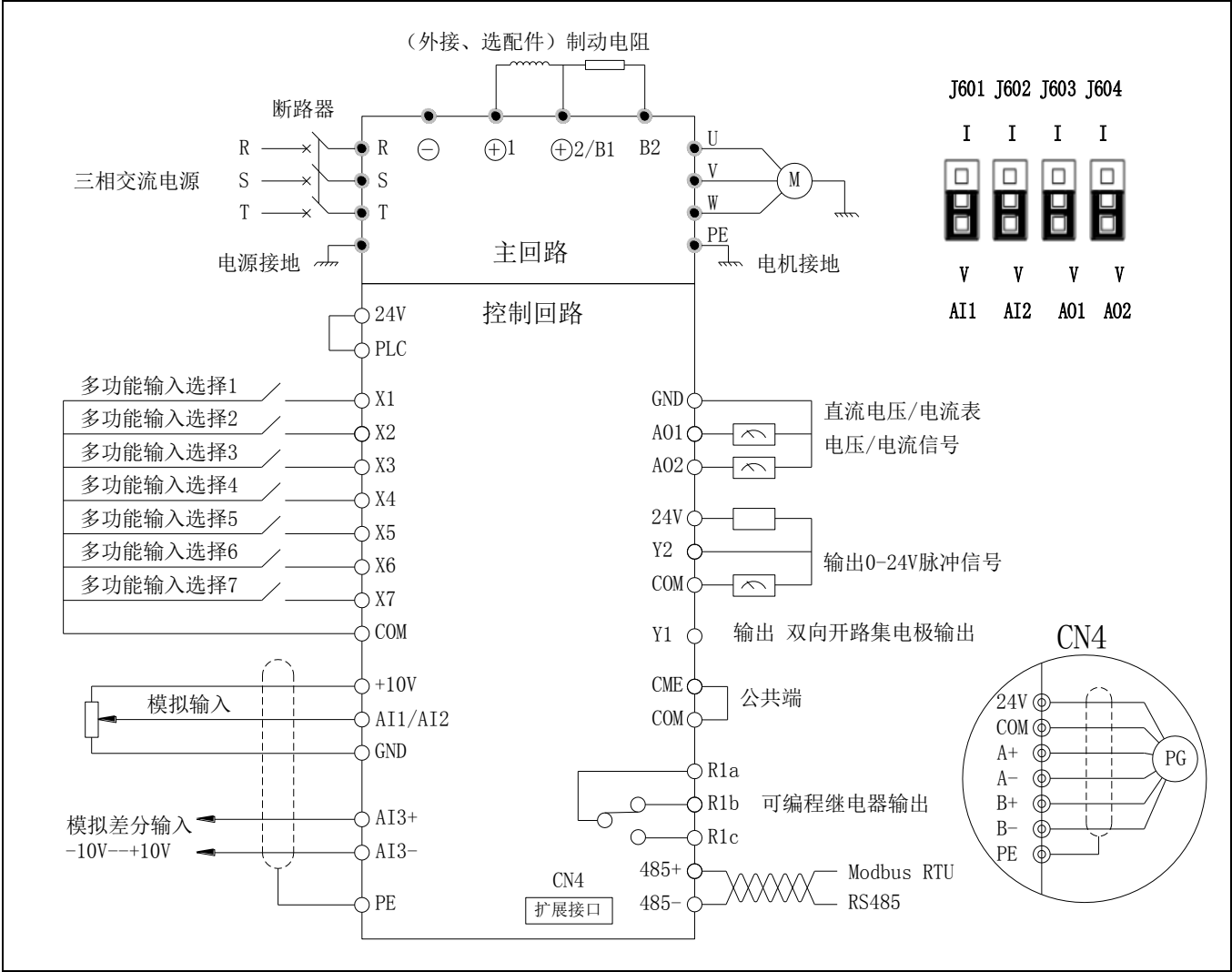
4.1.1 主回路输入输出端子类型

表4-1主回路端子描述

子名称	功能说明
L、N	单相交流 220V 输入端子
R、S、T	三相交流 220V/380V 输入端子
⊖	直流负母线输出端子
⊕1、⊕2	外接直流电抗器预留端子
⊕2、⊖	外接制动单元端子
B1、B2	制动电阻的接入端子
U、V、W	三相交流输出端子
PE	屏蔽接地端子

4.1.2 基本运行配线连接

图 4-1 基本配线图



4.2 控制回路配线及配置

4.2.1 控制回路端子的接线

变频器投入使用前，应正确进行端子配线。控制回路端子功能说明请参见表 4-2。

表4-2控制回路端子功能

序号	功能
1	模拟输入及输出端口、开关量输入输出端口、RS485 通讯端口、继电器输出端口

注意

建议使用 1mm² 以上的导线作为控制回路端子的连接线。

控制回路端子排列如下图所示：

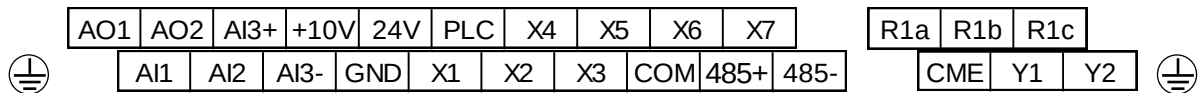
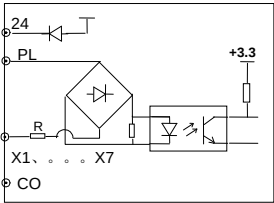


图 4-2 控制端子排列图

各端子功能说明请参见表 4-3。

表4-3接口板端子 CNA 功能表

类别	端子丝印	名称	端子功能说明	规格
屏蔽		屏蔽接地	用于端子接线屏蔽层接地。模拟信号线、485 通讯线、机电电缆线的屏蔽层可接在此端子	在内部与主回路接线端子 PE 相连
电源	+10	+10V 电源	对外提供 +10V 参考电源	最大允许输出电流 5mA
	GND	+10V 电源地	模拟信号和 +10V 电源的参考地	内部与 COM、CME 隔离
模拟输入	AI1	模拟单端输入 AI1	接受模拟电压量或电流量单端输入，电压/电流输入由控制板跳线 AI1 选择(参考地:GND)	输入电压范围:-10V~10V(输入阻抗:45 k Ω)，分辨率:1/4000 输入电流范围:0mA~20 mA，分辨率:1/2000(需跳线)
	AI2	模拟单端输入 AI2	接受模拟电压量或电流量单端输入，电压/电流输入由控制板跳线 AI2 选择(参考地:GND)	
	AI3+	模拟电压差分输入 AI3+或模拟电压单端输入	当接受模拟电压量差分输入时，AI3+为同相输入端，AI3-为反相输入端；当接受模拟电压量单端输入时，AI3+为信号输入端，AI3-应接 GND(参考地:GND)	输入电压范围:-10V~10V(输入阻抗:15k Ω)，分辨率:1/4000
	AI3-	模拟电压差分输入 AI3-或模拟电压单端输入		
模拟输出	AO1	模拟输出 1	提供模拟电压/电流量输出，输出电压、电流由控制板跳线 AO1 选择，出厂默认输出电压，见功能码 A6.28 说明(参考地:GND)	电压输出范围:0~10V 电流输出范围:0/4~20mA
	AO2	模拟输出 2	提供模拟电压/电流量输出，输出电压、电流由控制板跳线 AO2 选择，出厂默认输出电压，见功能码 A6.29 说明(参考地:GND)	电压输出范围:0~10V 电流输出范围:0/4~20mA
通讯	RS485+	RS485 通讯接口	485 差分信号正端	标准 RS485 通讯接口 请使用双绞线或屏蔽线
	RS485-		485 差分信号负端	

类别	端子丝印	名称	端子功能说明	规格
多功能输入端子	X1	多功能输入端子 1	可编程定义为多种功能的开关量输入端子, 开关量输入端子(A6 组)中对 A6.00~A6.06 输入端子的功能介绍	光耦隔离输入 输入阻抗: $R=3.3\text{ k}\Omega$; X1~X6 最高输入频率:200Hz; X7 最高输入频率 100kHz 输入电压范围:20~30V 
	X2	多功能输入端子 2		
	X3	多功能输入端子 3		
	X4	多功能输入端子 4		
	X5	多功能输入端子 5		
	X6	多功能输入端子 6		
	X7	多功能输入端子 7		
多功能输出端子	Y1	双向开路集电极输出端子 1	可编程定义为多种功能的开关量输出端子, 开关量输出端子(A6 组)中对 A6.14 输出端子的功能介绍(公共端:CME)	光耦隔离输出 最大工作电压:30V 最大输出电流:50mA
	Y2	开路集电极脉冲输出端子	可编程定义为多种功能的脉冲信号输出端子, 开关量输出端子(A6 组)中对 A6.25 输出端子的功能介绍(公共端:COM)	输出频率范围:由 A6.26 决定, 最大 100kHz
电源	24V	+24V 电源	对外提供+24V 电源	最大输出电流:200mA
公共端	PLC	多功能输入公共端	多功能输入端子公共端 (出厂与 24V 短接)	X1~X7 的公共端, PLC 与 24V 内部隔离
	COM	24V 电源公共端	共 3 个公共端子, 与其它端子配合使用	COM 与 CME、GND 内部隔离
	CME	Y1 输出公共端	多功能输出端子 Y1 公共端	
继电器输出端子 1	R1a	继电器输出	可编程定义为多种功能的继电器输出端子, 开关量输出端子(A6 组)中对 A6.16 输出端子的功能介绍	R1a-R1b:常闭, R1a-R1c:常开 触点容量: AC250V/2A($\cos\phi=1$) AC250V/1A($\cos\phi=0.4$) DC30V/1A 使用方法见 A6 说明。继电器输出端子的输入电压的过电压等级为过电压等级 II
	R1b			
	R1c			

第五章 变频器快速操作指南

5.1 变频器操作面板

5.1.1 操作面板的外观及按键功能说明

操作面板是变频器接受命令、显示参数的主要单元，为 LED 型。LED 型操作面板见图 5-1。

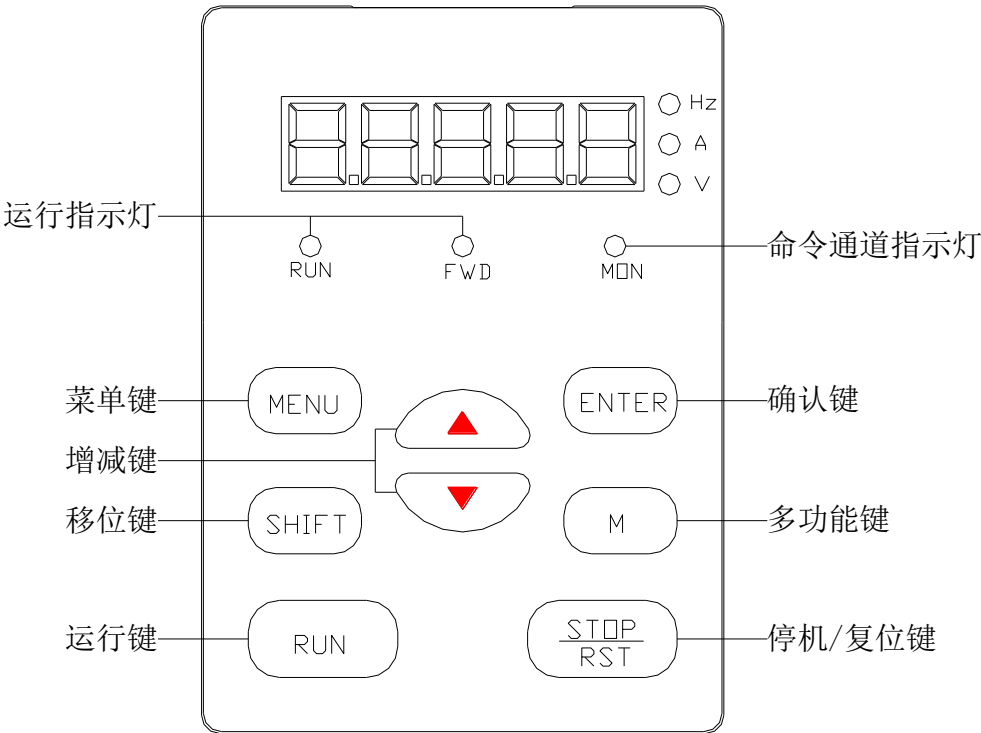


图 5-1 LED 操作面板示意图

变频器操作面板上设有 8 个按键，每个按键的功能定义如表 5-1 所示。

表5-1操作面板功能表

键	名称	功能
MENU	编程/退出键	进入或退出编程状态
ENTER	功能/数据键	进入下级菜单或数据确认
∧	增键	数据或功能码的递增
∨	减键	数据或功能码的递减
SHIFT	移位键	在编辑状态时，可以选择设定数据的修改位；在其他状态下，可切换显示状态参数
M	多功能键	该该键的功能由 b4.01 设置
RUN	运行键	在操作面板方式下，按该键运行
STOP/RST	停止/复位键	停机或故障复位

5.1.2 LED 数码管及指示灯说明

变频器 LED 操作面板上设有五位 8 段 LED 数码管、3 个单位指示灯、3 个状态指示灯。如图 5-1 所示。数码管可显示变频器的状态参数、功能码参数、故障告警码等。3 个单位指示灯分别对应 3 种单位指示。3 状态指示灯:分别指示的意义说明见表 5-2。

表5-2状态指示灯说明

指示灯	显示状态	指示变频器的当前状态
运行状态指示灯	灭	停机状态
	亮	运行状态
运行方向指示灯	灭	反转
	亮	正转
运行命令通道指示灯	亮	操作面板控制状态
	灭	端子控制状态
	闪烁	通讯

5.1.3 操作面板的显示状态

FV100 操作面板的显示状态分为停机状态参数显示、运行状态参数显示、功能码参数编辑状态显示。

1. 停机参数显示状态

变频器处于停机状态，操作面板显示停机状态参数，按 **SHIFT** 键，可循环显示不同的停机状态参数(由功能码 b4.05 定义)。

2. 运行参数显示状态

变频器接到有效的运行命令后，进入运行状态，操作面板显示运行状态参数，面板上的 **RUN** 指示灯亮，FWD 灯的亮灭由当前运行方向决定。单位指示灯显示该参数的单位，按 **SHIFT** 键，可循环显示运行状态参数。可查看的运行状态参数由功能码 b4.05 定义。

3. 故障显示状态

变频器检测到故障信号，即进入故障告警显示状态，闪烁显示故障代码。

按 **SHIFT** 键可循环显示停机参数和故障代码。通过操作面板的 **STOP/RST** 键、控制端子或通讯命令可进行故障复位操作。若故障持续存在，则维持显示故障码。

4. 功能码编辑状态

在停机、运行或故障告警状态下，按下 **MENU** 键，均可进入编辑状态(如果有用户密码，参见 A0.00 说明)，编

辑状态按两级菜单方式进行显示，其顺序依次为:功能码组或功能码号→功能码参数，按 **ENTER** 键可进入功能参数显示状态。在功能参数显示状态下，按 **ENTER** 键则进行参数存储操作；按 **MENU** 则可反向退出。

5.1.4 操作面板的操作方法

通过操作面板可对变频器进行各种操作，以下为 5 种常用操作的举例。具体功能码的结构说明，可参见第九章功能码简表。

例一:设置功能码参数

举例:将功能码 A0.03 从 50.00Hz 更改设定为 30.00Hz。

1. 在停机参数显示状态下，按 **MENU** 键进入一级菜单 A0.00；
2. 按 **∧** 键将 A0.00 改为 A0.03；
3. 按 **ENTER** 键进入二级菜单；
4. 按 **SHIFT** 键将光标设置在最高位；
7. 按 **∨** 键将 50.00 改为 30.00；
8. 按 **ENTER** 键确认修改，并退回到一级菜单，修改成功。

以上操作步骤可参见下图:

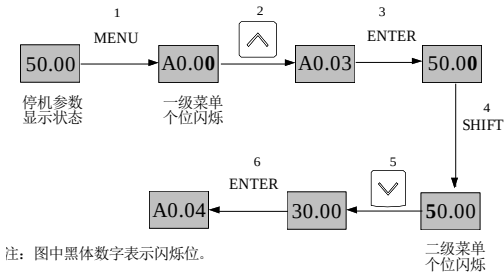


图 5-2 功能码参数设置实例

在功能参数显示状态下，若参数没有闪烁位，表示该功能码不能修改，可能原因有：

1. 该功能码为不可修改参数。如实际检测参数、运行记录参数等；
2. 该功能码在运行状态下不可修改，需停机后才能进行修改；
3. 参数被保护。当功能码 b4.02 为 1 时，功能码不可修改，这是为避免误操作进行的参数保护。若要编辑功能码参数，需先将功能码 b4.02 设为 0。

第六章 故障、告警对策及异常处理

FV100 所有可能出现的故障类型，归纳如表 6-1 所示，故障代码显示范围为 E001~E040。用户在寻求服务之前，可以先按该表提示进行自查，并详细记录故障现象，需要寻求服务时，请与销售商联系。

表 6-1 故障报内容

故障代码	故障类型
E001	变频器加速运行时硬件或者软件过电流
E002	变频器减速运行时硬件或者软件过电流
E003	变频器恒速运行时硬件或者软件过电流
E004	变频器加速运行时硬件或者软件过电压
E005	变频器减速运行时硬件或者软件过电压
E006	变频器恒速运行时硬件或者软件过电压
E007	输入电压过高
E008	输入侧缺相
E009	输出侧缺相
E010	18.5kw 以下检测输出电流过大；22kw 以上检测功率模块管压降过大
E011	逆变模块散热器过热
E012	整流模块散热器过热
E013	运行电流长时间大于变频器额定电流
E014	运行电流长时间大于电机额定电流
E015	外部设备故障
E016	EEPROM 读写故障
E017	变频器与上位机通信不上
E018	电源板或者驱动板或接触器损坏造成接触器异常
E019	霍尔或者驱动板异常造成电流检测电路故障
E020	保留
E021~E022	保留
E023	操作面板参数拷贝出错
E024	矢量控制时电机自整定不良
E025	闭环矢量控制时码盘故障
E026	检测到变频器运行电流小于掉载设定值
E027	制动单元故障
E028~E032	保留
E033	变频器输出端对地短路
E034	变频器运行速度和编码器检测速度偏差超过允许值
E035~E039	保留
E040	扩展卡与控制板 SPI 通讯故障

注意

变频器制动电阻短路可能会造成变频器制动单元的损坏。

第七章 功能码简表

FV100 系列变频器的功能码采用(功能码组号+功能码号)的方式标识, 本手册其它内容中出现 AX.YZ 字样, 含义是功能表中第“X”组中第“YZ”号功能码, 如“A6.08”表示为第 A6 组功能的第 8 号功能码。

功能码简表的结构说明如下:

表 7-1 功能码简表结构说明

列号	名称	说明
1	功能码	功能参数组及参数的编号
2	名称	功能参数的完整名称
3	机内设定范围	功能参数的有效设定值范围
4	最小单位	功能参数设定值的最小单位
5	出厂设定值	功能参数的出厂原始设定值
6	更改	功能参数的更改属性(即是否允许更改和更改条件): “O”:表示该参数的设定值在变频器处于停机、运行状态中, 均可更改; “×”:表示该参数的设定值在变频器处于运行状态时, 不可更改; “*”:表示该参数的数值是实际检测记录值, 不能更改; “—”:表示该参数是“厂家参数”, 仅限于制造厂家设置, 禁止用户进行操作 (变频器已对各参数的修改属性作了自动检查约束, 可帮助用户避免误修改)

注:

- “参数进制”分为十进制(DEC)和十六进制(HEX)两种, 若参数采用十六进制表示, 参数编辑时其每一位的数据彼此独立, 部分位的取值范围可以是十六进制的(0~F)。
- “出厂设定值”表明当进行恢复出厂参数操作时, 功能码参数被刷新后的数值; 但实际检测的参数值或记录值, 则不会被刷新。

表 7-2 功能码简表

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A0 组:基本参数						
A0.00	用户密码	0:无密码 其他:密码保护	1	0	0	0~FFFF
A0.01	控制方式选择	0:无 PG 矢量控制 1:带 PG 矢量控制 2:VF 控制	1	2	×	0~2
A0.02	主频率源选择	0:数字给定 1:键盘 UP/DN 或端子 UP/DN 1:AI1 2:AI2 3:AI3 4:DI 脉冲输入给定 5:保留	1	0	0	0~5

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A0.03	数字频率给定	A0.11~A0.10	0.01Hz	50.00	0	0~30000
A0.04	运行命令通道选择	0: 键盘控制 1: 端子控制 2: 通信控制	1	0	0	0~2
A0.05	运转方向设定	0: 正转 1: 反转	1	0	0	0~1
A0.06	加速时间 1	0.0~6000.0	0.1s	22kw 及下: 6.0s 30kw~45kw: 20.0s 45kw 以上: 30.0s	0	0~60000
A0.07	减速时间 1	0.0~6000.0	0.1s	22kw 及下: 6.0s 30kw~45kw: 20.0s 45kw 以上: 30.0s	0	0~60000
A0.08	最大输出频率	上限频率 A0.11~300.00Hz	0.01Hz	50.00	×	0~30000
A0.09	最大输出电压	0~1140	1V	变频器额定值	×	0~60000
A0.10	上限频率	A0.12~A0.09	0.01Hz	50.00	0	0~30000
A0.11	下限频率	0.00~A0.11	0.01Hz	0.00	0	0~30000
A0.12	基本频率	0.00~最大输出频率 A0.08	0.01Hz	50.00	0	0~30000
A0.13	转矩提升	0.0%(自动), 0.1%~30.0%	0.1%	0.0%	0	0~300
A1 组: 起停参数						
A1.00	起动运行方式	0. 从起动频率起动 1. 先制动再从起动频率起动 2. 转速跟踪包括方向判别再起 动 3. 电流搜索型转速跟踪启动 (仅 VF 有效)	1	0	×	0~2
A1.01	起动频率	0.00~60.00Hz	0.01Hz	0.00Hz	0	0~6000
A1.02	起动频率保持时间	0.00~10.00s	0.01s	0.00s	0	0~1000
A1.03	起动直流制动电流	0.0%~100.0%变频器额定电 流	0.1%	0.0%	0	0~1000
A1.04	起动直流制动时间	0.00(不动作) 0.01~30.00s	0.01s	0.00s	0	0~3000
A1.05	停机方式	0: 减速停机 1: 自由停机 2: 减速停机+直流制动	1	0	×	0~2
A1.06	停机直流制动起始频率	0.00~60.00Hz	0.01Hz	0.00Hz	0	0~6000
A1.07	停机直流制动等待时间	0.00~10.00s	0.01s	0.00s	0	0~1000
A1.08	停机直流制动电流	0.0%~100.0%变频器额定电 流	0.1%	0.0%	0	0~1000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A1.09	停机直流制动时间	0.0(不动作) 0.01~30.00s	0.01s	0.00s	0	0~3000
A1.10	停电再起功能选择	0:不动作 1:动作	1	0	×	0~1
A1.11	停电再起等待时间	0.0~10.0s	0.1s	0.0s	0	0~100
A1.12	防反转选择	0:允许反转 1:禁止反转(施加反转运行指令时零频率运行)	1	0	×	0~1
A1.13	正反转死区时间	0.00~360.00s	0.01s	0.00s	0	0~36000
A1.14	正反转切换模式(保留)	0:过零频切换 1:过起动频率切换	1	0	×	0~1
A1.15	停止速度	0.00~150.00Hz	0.01Hz	0.10Hz	×	0~15000
A1.16	制动单元动作电压	650~750V	1	720	×	650~750
A1.17	能耗制动选择	0:不动作 1:动作	1	0	×	0~1
A1.18	能耗制动使用率	0.0~100.0%	0.1%	80.0%	0	0~1000
A1.19	停电再起模式选择	0:电流搜索启动(仅VF有效,非VF下设置为0时,按矢量跟踪起动) 1:矢量跟踪模式 2:由A1.00参数决定	1	0	×	0~2
A2 组. 频率设定						
A2.00	辅频率源选择	0:无辅助给定 1:AI1 2:AI2 3:AI3 4:DI 端子脉冲给定 5:过程PID 输出频率	1	0	0	0~5
A2.01	主辅频率源运算	0:+ 1:- 2:MAX(主给定, 辅助给定) 3:MIN(主给定, 辅助给定)	1	0	0	0~3
A2.02	UP/DN 调节速率	0.01~99.99Hz/s	0.01	1.00	0	1~9999
A2.03	UP/DN 调节控制	LED 个位: 0. 频率掉电存储 1. 频率掉电不存储 LED 十位: 0. 停机频率保持 1. 停机频率恢复初值 LED 百位: 0. UP/DN 时间积分有效 1. UP/DN 速率有效	1	000	0	0~111H
A2.04	点动运行频率	0.10~50.00Hz	0.01Hz	5.00	0	10~5000
A2.05	点动间隔时间	0.0~100.0s	0.1s	0.0	0	0~1000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A2.06	跳跃频率 1	0.00~300.00Hz	0.01Hz	0.00	×	0~30000
A2.07	跳跃频率 1 范围	0.00%~30.00%	0.01Hz	0.00	×	0~3000
A2.08	跳跃频率 2	0.00~300.00Hz	0.01Hz	0.00	×	0~30000
A2.09	跳跃频率 2 范围	0.00%~30.00%	0.01Hz	0.00	×	0~3000
A2.10	跳跃频率 3	0.00~300.00Hz	0.01Hz	0.00	×	0~30000
A2.11	跳跃频率 3 范围	0.00%~30.00%	0.01Hz	0.00	×	0~3000
A3 组. 设定曲线						
A3.00	曲线选择	LED 个位:AI1 曲线选择 0. 曲线 1 1. 曲线 2 2. 曲线 3 3. 曲线 4 LED 十位:AI2 曲线选择 0. 曲线 1 1. 曲线 2 2. 曲线 3 3. 曲线 4 LED 百位:AI3 曲线选择 0. 曲线 1 1. 曲线 2 2. 曲线 3 3. 曲线 4 LED 千位:脉冲输入量曲线选择 0. 曲线 1 1. 曲线 2 2. 曲线 3 3. 曲线 4	1	0000	0	0~3333H
A3.01	曲线 1 最大给定	A3.03~110.00%	0.01%	100.00%	0	0~11000
A3.02	曲线 1 最大给定对应的实际量	频率给定:0.0~100.00%F _{max} 转矩量:0.0~300.00%T _e	0.01%	100.00%	0	0~10000
A3.03	曲线 1 最小给定	0.0%~A3.01	0.01%	0.00%	0	0~11000
A3.04	曲线 1 最小给定对应的实际量	同 A3.02	0.01%	0.00%	0	0~10000
A3.05	曲线 2 最大给定	A3.07~110.00%	0.01%	100.00%	0	0~11000
A3.06	曲线 2 最大给定对应的实际量	同 A3.02	0.01%	100.00%	0	0~10000
A3.07	曲线 2 最小给定	0.0%~A3.05	0.01%	0.00%	0	0~11000
A3.08	曲线 2 最小给定对应的实际量	同 A3.02	0.01%	0.00%	0	0~10000
A3.09	曲线 3 最大给定	A3.11~110.00%	0.01%	100.00%	0	0~11000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A3.10	曲线 3 最大给定对应的实际量	同 A3.02	0.01%	100.00%	0	0~10000
A3.11	曲线 3 最小给定	0.0%~A3.09	0.01%	0.00%	0	0~11000
A3.12	曲线 3 最小给定对应的实际量	同 A3.02	0.01%	0.00%	0	0~10000
A3.13	曲线 4 最大给定	A3.15~110.00%	0.01%	100.00%	0	0~11000
A3.14	曲线 4 最大给定对应的实际量	同 A3.02	0.01%	100.00%	0	0~10000
A3.15	曲线 4 拐点 2 给定	A3.17~A3.13	0.01%	100.00%	0	0~11000
A3.16	曲线 4 拐点 2 给定对应的实际量	同 A3.02	0.01%	100.00%	0	0~10000
A3.17	曲线 4 拐点 1 给定	A3.19~A3.15	0.01%	0.00%	0	0~11000
A3.18	曲线 4 拐点 1 给定对应的实际量	同 A3.02	0.01%	0.00%	0	0~10000
A3.19	曲线 4 最小给定	0.0%~A3.17	0.01%	0.00%	0	0~11000
A3.20	曲线 4 最小给定对应的实际量	同 A3.02	0.01%	0.00%	0	0~10000
A3.21	曲线特性选择	LED 个位: 曲线 1 选择 0. 小于 0 时, 取 0 值 1. 相对原点对称 2. 取绝对值 LED 十位: 曲线 2 选择 0. 小于 0 时, 取 0 值 1. 相对原点对称 2. 取绝对值 LED 百位: 曲线 3 选择 0. 小于 0 时, 取 0 值 1. 相对原点对称 2. 取绝对值 LED 千位: 曲线 4 选择 0. 小于 0 时, 取 0 值 1. 相对原点对称 2. 取绝对值	1	0000	0	0~2222H
A4 组. 加减速参数						
A4.00	加减速方式选择	0: 直线加减速 1: S 曲线加减速	1	0	×	0~1
A4.01	加速时间 2	0.0~6000.0	0.1s	20.0s	0	0~60000
A4.02	减速时间 2	0.0~6000.0	0.1s	20.0s	0	0~60000
A4.03	加速时间 3	0.0~6000.0	0.1s	20.0s	0	0~60000
A4.04	减速时间 3	0.0~6000.0	0.1s	20.0s	0	0~60000
A4.05	加速时间 4	0.0~6000.0	0.1s	20.0s	0	0~60000
A4.06	减速时间 4	0.0~6000.0	0.1s	20.0s	0	0~60000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A4.07	S 曲线加速起始段时间	10.0%~50.0%(加速时间) A4.07+ A4.08≤90%	0.1%	20.0%	0	100~500
A4.08	S 曲线加速结束段时间	10.0%~80.0%(加速时间) A4.07+ A4.08≤90%	0.1%	20.0%	0	100~800
A4.09	S 曲线减速起始段时间	10.0%~50.0%(减速时间) A4.09+ A4.10≤90%	0.1%	20.0%	0	100~500
A4.10	S 曲线减速结束段时间	10.0%~80.0%(减速时间) A4.09+ A4.10≤90%	0.1%	20.0%	0	100~800
A4.11~ A4.21	保留	保留	1	—	0	0~65535
A4.22	加减速时间 1 和 2 的切换频率	0.00~300.00Hz 输出频率小于 A4.22 选择加减速时间 2	0.01Hz	0.00Hz	×	0~30000
A4.23~ A4.25	保留	保留	1	—	0	0~65535
A5 组. 控制参数						
A5.00	速度/转矩控制方式	0:速度控制方式 1:转矩控制方式 Δ	1	0	×	0~1
A5.01	ASR1-P	0.1~200.0	0.1	20.0	0	1~2000
A5.02	ASR1-I	0.000~10.000S	0.001s	0.200s	0	0~10000
A5.03	ASR1 输出滤波器	0~8(对应 0~2^8/10ms)	1	0	0	0~8
A5.04	ASR2-P	0.1~200.0	0.1	20.0	0	1~2000
A5.05	ASR2-I	0.000~10.000S	0.001s	0.200s	0	0~10000
A5.06	ASR2 输出滤波器	0~8(对应 0~2^8/10ms)	1	0	0	0~8
A5.07	ASR1/2 切换频率	0.0%~100.0%	0.1	10.0%	0	0~1000
A5.08	转矩控制时正转速度限制值	0.0%~+100.0%	0.1%	100.0%	0	0~1000
A5.09	转矩控制时反转速度限制值	0.0%~+100.0%	0.1%	100.0%	0	0~1000
A5.10	驱动转矩限制值	0.0%~+300.0%	0.1%	180.0%	0	0~3000
A5.11	制动转矩限制值	0.0%~+300.0%	0.1%	180.0%	0	0~3000
A5.12	转矩给定选择	0:数字转矩给定 1:AI1 2:AI2 3:AI3 4:端子脉冲 DI 给定	1	0	×	0~4
A5.13	数字转矩给定	-300.0%~+300.0%	0.1%	0.0%	0	0~6000
A5.14	速度→转矩切换点	0%~+300.0%初始转矩	0.1%	100.0%	×	0~3000
A5.15	速度转矩切换延时	0~1000mS	1	0	×	0~1000
A5.16	转矩给定滤波时间	0~65535mS	1ms	0	×	0~65535
A5.17	ACR-P	1~5000	1	1000	0	1~5000
A5.18	ACR-I	0.5~100.0mS	0.1	8.0	0	5~1000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A6 组. 控制端子参数						
A6.00	输入端子 X1 功能选择	0:无功能 1:正转 2:反转 3:点动正转 4:点动反转 5:三线式运转控制 6:外部复位(RESET)输入 7:外部故障输入 8:外部中断输入 9:变频器运行禁止 10:端子停机 11:端子直流制动停机 12:端子自由停机 13:频率递增指令(UP) 14:频率递减指令(DN) 15:命令切换至键盘控制 16:命令切换至端子控制 17:命令切换至通信控制 18:主频率源切换至 AI1 19:主频率源切换至 AI2 20:主频率源切换至 AI3 21:主频率源切换至 DI 22:辅频率源无效 23:辅频率源切换至 AI1(保留) 24:辅频率源切换至 AI2(保留) 25:辅频率源切换至 AI3(保留) 26:辅频率源切换至 DI(保留) 27:多段频率选择 1 28:多段频率选择 2 29:多段频率选择 3 30:多段频率选择 4 31:加减速时间选择 1 32:加减速时间选择 2 33:多段闭环频率选择 1 34:多段闭环频率选择 2 35:多段闭环频率选择 3 36:多段闭环频率选择 4 37:正转禁止	1	1	×	0~100

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
		38:反转禁止 39:加减速禁止 40:过程闭环禁止 41:速度控制和转矩控制切换端子 42:主频率源切换至数字给定 43:PLC 暂停 44:PLC 禁止 45:PLC 停机记忆清除 46:摆频投入 47:摆频状态复位 其他:保留				
A6.01	输入端子 X2 功能选择	同上	1	2	×	0~100
A6.02	输入端子 X3 功能选择	同上	1	6	×	0~100
A6.03	输入端子 X4 功能选择	同上	1	27	×	0~100
A6.04	输入端子 X5 功能选择	同上	1	28	×	0~100
A6.05	输入端子 X6 功能选择	同上	1	29	×	0~100
A6.06	输入端子 X7 功能选择	同上	1	0	×	0~100
A6.07	保留	保留	1	0	×	0~100
A6.08	端子滤波时间	0~500ms	1	10	0	0~500
A6.09	端子控制模式选择	0:两线控制模式 1 1:两线控制模式 2 2:三线式运转控制 1 3:三线式运转控制 2 4:两线式运转模式 3(电平模式, 不推荐)	1	0	×	0~4
A6.10	最大输入脉冲频率	0.1~100.0(最大 100k) 仅对 X7 选择高速脉冲输入时有效	0.1kHz	10.0	0	1~1000
A6.11	脉冲给定中心点选择	0:无中心点 1:有中心点, 中心点为 (A6.10)/2, 频率小于中心点为正 2:有中心点, 中心点为 (A6.10)/2, 频率小于中心点为负	1	0	0	0~1
A6.12	脉冲给定滤波时间	0.00~10.00s	0.01s	0.05	0	0~1000
A6.13	输入端子有效状态设定	二进制设定 0:正常逻辑, 导通有效 1:逻辑取反, 断开有效 LED 个位:BIT0~BIT3. X1~X4 LED 十位:BIT0~BIT2. X5~X8	1	00	0	0~FFH

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A6.14	开路集电极输出 Y1 功能	0. 变频器运行中信号 (RUN) 1. 频率到达信号 (FAR) 2. 频率水平检测信号 (FDT1) 3. 频率水平检测信号 (FDT2) 4. 过载检出信号 (OL) 5. 欠压封锁停止中 (LU) 6. 外部故障停机 (EXT) 7. 频率上限限制 (FHL) 8. 频率下限限制 (FLL) 9. 变频器零速运行中 10. X1 端子 (保留) 11. X2 端子 (保留) 12. 简易 PLC 阶段完成指示 13. PLC 循环完成指示 14. 摆频上下限限制 15. 变频器运行准备完成 (RDY) 16. 变频器故障 17. 上位机开关信号 18. 保留 19. 转矩限制中 20. 变频器正反转指示端子 其他. 保留	1	0	×	0~50
A6.15	开路集电极输出 Y2 功能	同上	1	1	-	0~50
A6.16	继电器 R1 输出功能	同上	1	16	×	0~50
A6.17	继电器 R2 输出功能	同上	1	15	×	0~50
A6.18	继电器 R1 输出延时	0.1~10.0s	0.1s	0.1	0	1~100
A6.19	继电器 R2 输出延时	0.1~10.0s	0.1s	0.1	0	1~100
A6.20	输出端子有效状态设定	二进制设定 0: 导通有效 1: 断开有效 LED 个位: BIT0~BIT3. Y1、Y2、R1、R2 LED 十位: BIT0. D0	1	0	0	0~1FH
A6.21	频率到达 (FAR) 检出宽度	0.00~300.00Hz	0.01Hz	2.50Hz	0	0~30000
A6.22	FDT1 电平	0.00~300.00Hz	0.01Hz	50.00Hz	0	0~30000
A6.23	FDT1 滞后	0.00~300.00Hz	0.01Hz	1.00Hz	0	0~30000
A6.24	FDT2 电平	0.00~300.00Hz	0.01Hz	25.00Hz	0	0~30000
A6.25	FDT2 滞后	0.00~300.00Hz	0.01Hz	1.00Hz	0	0~30000
A6.26	虚拟端子设定	二进制设定 0: 无效 1: 有效 LED 个位: BIT0~BIT3. X1~X4 LED 十位: BIT0~BIT2. X5~X8	1	00	0	0~FFH

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A6.27	Y2 端子输出	0~50. DO 作为 Y 端子输出; 51~88. DO 功能 0:变频器运行中信号(RUN) 1:频率到达信号(FAR) 2:频率水平检测信号(FDT1) 3:频率水平检测信号(FDT2) 4:过载检出信号(OL) 5:欠压封锁停止中(LU) 6:外部故障停机(EXT) 7:频率上限限制(FHL) 8:频率下限限制(FLL) 9:变频器零速运行中 10:X1 端子(保留) 11:X2 端子(保留) 12:简易 PLC 阶段完成指示 13:PLC 循环完成指示 14:摆频上下限制 15:变频器运行准备完成(RDY) 16:变频器故障 17:上位机开关信号 18:保留 19:转矩限制中 20:变频器正反转指示端子 21~50:保留 51:输出频率(0~最大频率) 52:设定频率(0~最大频率) 53:设定频率(加减速后)(0~最大频率) 54:电机转速(0~最大转速) 55:输出电流(0~2*Iei) 56:输出电流(0~2*Iem) 57:输出转矩(0~3*Tem) 58:输出功率(0~2*Pe) 59:输出电压(0~1.2*Ve) 60:母线电压(0~800V) 61:AI1 62:AI2 63:AI3 64:DI 65:上位机百分比(0~4095) 66~88:保留	1	000	0	0~100

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A6.28	最大输出脉冲频率	0.1~100.0(最大 100.0k)	0.1kHz	10.0	0	1~1000
A6.29	脉冲输出中心点选择	0:无中心点 1:有中心点,中心点(A6.26)/2,频率小于中心点为正 2:有中心点,中心点(A6.26)/2,频率大于中心点为正	1	0	0	0~2
A6.30	A01 输出功能	0:无功能 1:输出频率(0~最大频率) 2:设定频率(0~最大频率) 3:设定频率(加减速后)(0~最大频率) 4:电机转速(0~最大转速) 5:输出电流(0~2*Iei) 6:输出电流(0~2*Iem) 7:输出转矩(0~3*Tem) 8:输出功率(0~2*Pe) 9:输出电压(0~1.2*Ve) 10:母线电压(0~800V) 11:AI1 12:AI2 13:AI3 14:DI 15:上位机百分比(0~4095) 16~36:保留	1	0	0	0~36
A6.31	A02 端子功能	同上	1	0	0	0~36
A6.32	A01 增益	0.0%~200.0%	0.1%	100.0%	0	0~2000
A6.33	A01 零偏校正	-100.0%~100.0%	0.1%	0.0	0	0~2000
A6.34	A02 增益	0.0%~200.0%	0.1%	100.0%	0	0~2000
A6.35	A02 零偏校正	-100.0%~100.0%	0.1%	0.0	0	0~2000
A6.36	AI1 滤波	0.01~10.00s	0.01s	0.05	0	1~1000
A6.37	AI2 滤波	0.01~10.00s	0.01s	0.05	0	1~1000
A6.38	AI3 滤波	0.01~10.00s	0.01s	0.05	0	1~1000
A6.39	AI 模拟量输入零偏校正	0:不动作 1:动作	1	0	0	0~1
A6.40	AI1 增益	0.00%~200%	0.01%	100.0%	0	1~20000
A6.41	AI2 增益	0.00%~200%	0.01%	100.0%	0	1~20000
A6.42	AI3 增益	0.00%~200%	0.01%	100.0%	0	1~20000
A6.43~ A6.49	保留	-	1	0	0	0~65535
A6.50	多段速端子切换时间	0~500	1	300	0	0~65535
A6.61~ A6.60	保留	-	1	0	0	0~65535

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
A7 组. PG 参数						
A7.00	PG 类型	0:ABZ 增量型 1:UVW 增量型 2-3:正余弦型 3:保留	1	0	0	0~3
A7.01	PG 每转脉冲数	1~10000	1	2048	0	1~10000
A7.02	PG 旋转方向	0:A 超前 B 1:B 超前 A	1	0	×	0~1
A7.03	编码器信号滤波系数	个位:0~9 高速滤波 十位:0~9 低速滤波	1	30H	0	0~99H
A7.04	PG 断线检测时间	0.0:不动作 0.1~10.0	0.1s	0.0	0	0~100
A7.05	电机与编码器减速比	0.001~65.535	0.001	1	0	0~65535
A8 组. 故障参数						
A8.00	故障时继电器及 Y 端子输出动作选择	LED 个位:欠压故障指示动作选择 0.不动作 1.动作(欠压视为故障) LED 十位:自动复位间隔故障指示动作选择 0:不动作 1:动作 LED 百位:故障锁定功能选择 0:不动作 1:动作 LED 千位:保留	1	0000	×	0~1111H
A8.01	故障屏蔽选择 1	LED 个位:通讯故障屏蔽选择 LED 十位:接触器故障屏蔽选择 LED 百位:EEPROM 故障屏蔽选择 LED 千位:CPU 干扰故障(E020)屏蔽 0:未屏蔽,报故障并停机 1:未屏蔽,告警继续运行 2:已屏蔽	1	2000	×	0~2222H
A8.02	故障屏蔽选择 2	LED 个位:输入缺相故障屏蔽选择 LED 十位:输出缺相故障屏蔽选择 LED 百位:速度偏差过大故障屏蔽选择	1	0000	×	0~2222H

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
		LED 千位:模块过温(E011)屏蔽选择 0:未屏蔽,报故障并停机 1:未屏蔽,告警继续运行 2:已屏蔽				
A8.03	电机过载保护方式选择	0:不动作 1:普通电机(需做低速补偿) 2:变频电机(不需做低速补偿)	1	1	×	0~2
A8.04	自动复位次数	0:无功能 1~100:自动复位次数 注:模块保护、外部设备故障无自复位功能	1	0	×	0~100
A8.05	自动复位间隔时间	2.0~20.0s/次	0.1s	5.0s	×	20~200
A8.06	故障锁定功能选择	0:故障锁定禁止 1:故障锁定允许	1	0	×	0~1
b0 组. 电机参数						
b0.00	电机额定功率	0.4~999.9KW	0.1	机型确定	×	4~9999
b0.01	电机额定电压	0~变频器额定电压	1	机型确定	×	0~60000
b0.02	电机额定电流	0.1~999.9A	0.1A	机型确定	×	1~9999
b0.03	电机额定频率	1.00~1000.00Hz	0.01Hz	机型确定	×	100~30000
b0.04	电机极数	2~24	1	4	×	2~24
b0.05	电机额定转速	0~60000RPM	1RPM	1440RPM	×	0~60000
b0.06	电机定子电阻%R1	0.00%~50.00%	0.01%	机型确定	×	0~5000
b0.07	电机漏感抗%X	0.00%~50.00%	0.01%	机型确定	×	0~5000
b0.08	电机转子电阻%R2	0.00%~50.00%	0.01%	机型确定	×	0~5000
b0.09	电机互感抗%Xm	0.0%~2000.0%	0.1%	机型确定	×	0~20000
b0.10	电机空载电流 I0	0.1~999.9A	0.1A	机型确定	×	1~9999
b0.11	电机参数自整定	0:不动作 1:动作(电机静止) 2:动作(电机旋转) 3:保留(按铭牌设定计算)	1	0	×	0~3
b0.12	电机过载保护系数设定	20.0%~110.0%	0.1%	100.0%	×	200~1100
b0.13	电机过载保护时间设定	0.0~6000.0 0.0:按内部过载曲线计算过载	0.1s	0.0s	×	0~60000
b0.14	抑制震荡系数	0~255	1	10	0	0~255
b1 组. VF 参数						
b1.00	V/F 曲线设定	0:用户定义 V/F 曲线 1:2 次幂曲线 2:1.7 次幂曲线 3:1.2 次幂曲线	1	0	×	0~3
b1.01	V/F 频率 3	b1.03~A0.08	0.01Hz	0.00Hz	×	0~30000
b1.02	V/F 电压 3	b1.04~100.0%	0.1%	0.0%	×	0~1000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
b1.03	V/F 频率 2	b1.05~b1.01	0.01Hz	0.00Hz	×	0~30000
b1.04	V/F 电压 2	b1.06~b1.02	0.1%	0.0%	×	0~1000
b1.05	V/F 频率 1	0.00~b1.03	0.01Hz	0.00Hz	×	0~30000
b1.06	V/F 电压 1	0~b1.04	0.1%	0.0%	×	0~1000
b1.07	转矩提升截止点	0.0%~50.0%(相对 A0.12)	0.1%	10.0%	0	0~500
b1.08	AVR 功能	0:不动作 1:一直动作 2:仅减速时不动作	1	2	×	0~2
b1.09	VF 输出电压选择	0:无功能 1:AI1 2:AI2 3:AI3	1	0	×	0~3
b1.10	VF 输出电压偏置选择	0:无功能 1:AI1 2:AI2 3:AI3	1	0	×	0~3
b2 组. 增强参数						
b2.00	载波频率	2.0~15.0KHz	0.1	8.0	0	20~150
b2.01	载波频率自动调整选择	0. 不自动调整 1. 自动调整	1	1	0	0~1
b2.02	电压调节选择	LED 个位:过压失速选择 0:禁止(安装制动电阻时) 1:允许 LED 十位:瞬停不停功能选择 0:不动作 1:动作(低电压补偿) LED 百位:过调制使能 0:无效 1:有效	1	001	×	0~111H
b2.03	失速过压点	120.0%~150.0%U _{dce}	0.1%	140.0%	×	1200~1500
b2.04	下垂控制	0. 无效, 0.01~10.00Hz	0.01	0.00Hz	0	0~1000
b2.05	自动限流水平	20.0%~200.0%I _e	0.1%	150.0%	×	200~2000
b2.06	限流时频率下降率	0.00~99.99Hz/s	0.01 Hz/s	1.00Hz/s	0	0~9999
b2.07	自动限流动作选择	0:恒速无效 1:恒速有效 注:加减速总有效	1	1	×	0~1
b2.08	滑差补偿增益	0.0~300.0%	0.1%	100.0%	0	0~3000
b2.09	滑差补偿限定	0.0~250.0%	0.1%	200.0%	0	0~2500
b2.10	滑差补偿时间常数	0.1~25.0s	0.1s	2.0s	0	0~250
b2.11	节能运行	0:不动作 1:动作	1	0	×	0~1

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
b2.12	电压补偿时频率下降率	0.01~99.99Hz/s	0.01 Hz/s	10.00Hz/s	0	0~9999
b2.13	零频运行阈值	0.01~300.00Hz	0.01Hz	0.50Hz	0	0~30000
b2.14	零频运行回差(保留)	0.00~300.00Hz	0.01Hz	0.00Hz	0	0~30000
b2.15	风扇控制	0:自动方式运行 1:通电中风扇一直转 2:风扇的起停和变频器的起停一致 注: 方式1 停机后持续运转 3 分钟	1	0	×	0~2
b3 组. 通信参数						
b3.00	通讯配置	LED 个位:波特率选择 0:4800bps 1:9600bps 2:19200bps 3:38400bps 4:115200bps 5:125000bps LED 十位:数据格式 0:1-8-2-N 格式, RTU 1:1-8-1-E 格式, RTU 2:1-8-1-0 格式, RTU 3:1-7-2-N 格式, ASCII 4:1-7-1-E 格式, ASCII 5:1-7-1-0 格式, ASCII LED 百位:接线方式 0:直接电缆连接 (232/485) 1:MODEM(232) LED 千位:写功能时的存储方式 0:存 EEPROM 1:存 RAM	1	001	×	0~155H
b3.01	本机地址	0~247, 0 为广播地址	1	5	×	0~247
b3.02	通讯超时检出时间	0.0~1000.0S	0.1	0.0s	×	0~10000
b3.03	本机应答延时	0~1000mS	1	5ms	×	0~1000
b3.04~ b3.05	保留	-	-	-	-	-
b3.06~ b3.17	输入参数映射 1~12	输入参数映射 1~12	1	0	0	0~1000
b3.18~ b3.29	输入参数映射 1~12	输入参数映射 1~12	1	0	0	0~1000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
b4 组. 键盘参数						
b4.00	键盘锁定功能	0:无锁定 1:全锁定 2:除多功能键外全锁定 3:除 SHIFT 键外全锁定 4:除 RUN、STOP 键外全锁定	1	0	0	0~4
b4.01	多功能键功能	0:点动 1:自由停机 2:快速停机 3:运行命令通道切换 4:正反转切换(掉电保存) 5:正反转切换(掉电不保存)	1	4	0	0~5
b4.02	参数保护设置	0:全部数据允许被改写; 1:除主给定频率数字设定 A0.03 和本功能码外,禁止改写 2:除本功能码外,全部禁止改写	1	1	0	0~2
b4.03	参数初始化	0:参数改写状态 1:清除故障记忆信息 2:恢复出厂设定值	1	0	×	0~2
b4.04	参数拷贝	0:无动作 1:参数上载 2:参数下载 3:参数下载(电机参数除外) 注:不对变频器参数进行参数上/下载	1	0	×	0~3
b4.05	显示参数选择	二进制设定: 0:不显示; 1:显示 LED 个位: BIT0:输出频率(停机不显示,能量回馈模式下显示输入电网频率) BIT1:设定频率(闪烁,能量回馈模式下不显示) BIT2:输出电流(停机不显示,能量回馈模式下显示输入电网电流) BIT3:输出电压(停机不显示,能量回馈模式下显示输入电网电压)	1	1007H	0	0~7FFFH

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
		LED 十位: BIT0. AI1 BIT1. AI2 BIT2. AI3 BIT3. DI (端子状态) LED 百位: BIT0: 输出功率 (停机不显示, 能量回馈模式下不显示) BIT1: 输出转矩 (停机不显示, 能量回馈模式下不显示) BIT2: 模拟闭环反馈 (% , 能量回馈模式下不显示) BIT3: 模拟闭环设定 (%) (闪烁, 能量回馈模式下不显示) LED 千位: BIT0: 母线电压 BIT1: 运行转速 (R/MIN, 能量回馈模式下不显示) BIT2: 设定转速 (R/MIN) (闪烁, 能量回馈模式下不显示) BIT3: 线速度 注: 全为零时. 停机时默认显示为设定频率, 运行时默认显示为输出频率;				
b4. 06	线速度系数	0. 00~99. 99	0. 01	1. 00	0	0~9999
b4. 07	转速系数	0. 000~30. 000	0. 001	1. 000	0	0~30000
b4. 08~ b4. 15	保留	-	-	-	-	0~65535
C0 组. 多段速						
C0. 00	多段频率 1	A0. 12 (下限频率)~A0. 11 (上限频率)	0. 01Hz	5. 00Hz	0	0~30000
C0. 01	多段频率 2	同上	0. 01Hz	10. 00Hz	0	0~30000
C0. 02	多段频率 3	同上	0. 01Hz	15. 00Hz	0	0~30000
C0. 03	多段频率 4	同上	0. 01Hz	20. 00Hz	0	0~30000
C0. 04	多段频率 5	同上	0. 01Hz	25. 00Hz	0	0~30000
C0. 05	多段频率 6	同上	0. 01Hz	30. 00Hz	0	0~30000
C0. 06	多段频率 7	同上	0. 01Hz	35. 00Hz	0	0~30000
C0. 07	多段频率 8	同上	0. 01Hz	40. 00Hz	0	0~30000
C0. 08	多段频率 9	同上	0. 01Hz	45. 00Hz	0	0~30000
C0. 09	多段频率 10	同上	0. 01Hz	50. 00Hz	0	0~30000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
C0.10	多段频率 11	同上	0.01Hz	10.00Hz	0	0~30000
C0.11	多段频率 12	同上	0.01Hz	20.00Hz	0	0~30000
C0.12	多段频率 13	同上	0.01Hz	30.00Hz	0	0~30000
C0.13	多段频率 14	同上	0.01Hz	40.00Hz	0	0~30000
C0.14	多段频率 15	同上	0.01Hz	50.00Hz	0	0~30000
C1 组. 过程 PID						
C1.00	闭环功能选择	0:不动作 1:动作	1	0	×	0~1
C1.01	给定通道选择	0:数字给定; 1:AI1; 2:AI2; 3:AI3;	1	1	0	0~3
C1.02	反馈通道选择	0:AI1; 1:AI2; 2:AI1+AI2; 3:AI1-AI2; 4:MIN(AI1, AI2); 5:MAX(AI1, AI2); 6:DI	1	1	0	0~6
C1.03	给定量数字设定	-10.00V~10.00V	0.01	0.00	0	0~2000
C1.04	速度闭环给定	0~39000rpm	1rpm	-	-	0~39000
C1.05	最小给定量	0.0%~(A01.07) (最小给定量与基准值 10V;20mA 的百分比)	0.1%	0.0%	0	0~1000
C1.06	最小给定量对应的反馈量	0.0~100.0% (最小给定量对应的反馈量与 基准值 10V;20mA 的百分比)	0.1%	0.0%	0	0~1000
C1.07	最大给定量	(A1.05)~100.0% (最大给定量与基准值 10V;20mA 的百分比)	0.1%	100.0%	0	0~1000
C1.08	最大给定量对应的反馈量	0.0~100% (最大给定量对应的反馈量与 基准值 10V;20mA 的百分比)	0.1%	100.0%	0	0~1000
C1.09	比例增益 KP	0.000~10.000	0.001	2.000	0	0~10000
C1.10	积分时间 Ki	0.000~10.000	0.001	0.100	0	0~10000
C1.11	微分增益 Kd	0.000~10.000	0.001	0.100	0	0~10000
C1.12	采样周期	0.01~50.00s	0.01s	0.50s	0	1~5000
C1.13	输出滤波时间	0.01~10.00s	0.01s	0.05	0	1~1000
C1.14	偏差极限	0.0~20.0% (相对应闭环给定值)	0.1%	2.0%	0	0~200
C1.15	闭环调节特性	0:正作用 1:反作用	1	0	×	0~1

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
C1.16	积分调节选择	0:频率到上下限, 停止积分调节 1:频率到上下限, 继续积分调节	1	0	×	0~1
C1.17	闭环预置频率	0.00~300.00Hz	0.01Hz	0.00Hz	0	0~30000
C1.18	预置保持时间	0.0~3600.0S	0.1S	0.0s	×	0~36000
C1.19	多段闭环给定 1	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.20	多段闭环给定 2	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.21	多段闭环给定 3	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.22	多段闭环给定 4	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.23	多段闭环给定 5	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.24	多段闭环给定 6	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.25	多段闭环给定 7	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.26	多段闭环给定 8	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.27	多段闭环给定 9	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.28	多段闭环给定 10	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.29	多段闭环给定 11	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.30	多段闭环给定 12	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.31	多段闭环给定 13	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.32	多段闭环给定 14	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.33	多段闭环给定 15	-10.00V ~10.00V	0.01V	0.00V	0	0~2000
C1.34	闭环输出逆转选择	0:PID 输出为负时, 0 频运行 1:PID 输出为负时, 反转	1	0	0	0~1
C1.35	睡眠功能	0:无效 1:使能	1	0	0	0~1
C1.36	睡眠水平	0.0~100%满量程	0.1%	50.0%	×	0~1000
C1.37	睡眠延时	0.0~6000.0s	1s	30.0	0	0~6000
C1.38	唤醒水平	0.0~100%满量程	0.1%	50.0%	×	0~1000
C2 组. 简易 PLC 运行						
C2.00	简易 PLC 运行方式选择	LED 个位:PLC 运行方式 0:不动作 1:单循环后停机 2:单循环后保持最终值 3:连续循环 LED 十位:起动方式 0:从第一段开始重新运行 1:从停机(或故障)时刻的阶段继续运行 2:从停机(或故障)时刻阶段、频率继续运行 LED 百位:掉电存储 0:不存储	1	0000	×	0~1123H

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
		1:存储掉电时刻阶段、频率 LED 千位:阶段时间单位选择 0:秒 1:分				
C2.01	阶段 1 设置	LED 个位: 0:多段频率 N(N. 对应于当前的阶段) 1:由 A0.02 功能码决定 2:多段闭环给定 N(N. 对应于当前的阶段) 3:由 C1.01 功能码决定 LED 十位: 0:正转 1:反转 2:由运行命令确定 LED 百位: 0:加减速时间 1 1:加减速时间 2 2:加减速时间 3 3:加减速时间 4	1	000	0	0~323H
C2.02	阶段 1 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.03	阶段 2 设置	同阶段 1 设置	1	000	0	0~323H
C2.04	阶段 2 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.05	阶段 3 设置	同阶段 1 设置	1	000	0	0~323H
C2.06	阶段 3 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.07	阶段 4 设置	同阶段 1 设置	1	000	0	0~323H
C2.08	阶段 4 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.09	阶段 5 设置	同阶段 1 设置	1	000	0	0~323H
C2.10	阶段 5 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.11	阶段 6 设置	同阶段 1 设置	1	000	0	0~323H
C2.12	阶段 6 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.13	阶段 7 设置	同阶段 1 设置	1	000	0	0~323H
C2.14	阶段 7 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.15	阶段 8 设置	同阶段 1 设置	1	000	0	0~323H
C2.16	阶段 8 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.17	阶段 9 设置	同阶段 1 设置	1	000	0	0~323H
C2.18	阶段 9 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.19	阶段 10 设置	同阶段 1 设置	1	000	0	0~323H
C2.20	阶段 10 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.21	阶段 11 设置	同阶段 1 设置	1	000	0	0~323H
C2.22	阶段 11 运行时间	0.0~6500.0	0.1	20.0	0	0~65000

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
C2.23	阶段 12 设置	同阶段 1 设置	1	000	0	0~323H
C2.24	阶段 12 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.25	阶段 13 设置	同阶段 1 设置	1	000	0	0~323H
C2.26	阶段 13 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.27	阶段 14 设置	同阶段 1 设置	1	000	0	0~323H
C2.28	阶段 14 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C2.29	阶段 15 设置	同阶段 1 设置	1	000	0	0~323H
C2.30	阶段 15 运行时间	0.0~6500.0	0.1	20.0	0	0~65000
C3 组. 保留						
C3.00~ C3.07	保留	-	-	-	-	-
d0 组. 状态显示						
d0.00	主给定设定频率	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.01	辅助给定设定频率	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.02	设定频率	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.03	频率指令(加减速后)	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.04	输出频率	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.05	输出电压	0~60000V	1V	0	*	0~60000
d0.06	输出电流	0.0~3Ie	0.1A	0.0	*	0~65535
d0.07	转矩电流	-300.0~+300.0%	0.1%	0.0%	*	0~6000
d0.08	磁通电流	0~+100.0%	0.1%	0.0%	*	0~1000
d0.09	电机功率	0.0~200.0% (相对电机的额定功率)	0.1%	0.0%	*	0~2000
d0.10	电机估算频率	-300.00~300.00Hz	0.01	0.00	*	0~60000
d0.11	电机实测频率	-300.00~300.00Hz	0.01	0.00	*	0~60000
d0.12	母线电压	0~60000V	1V	0	*	0~60000
d0.13	变频器运行状态	0~FFFH bit0:运行/停机 bit1:反转/正转 bit2:零速运行 bit3:加速中 bit4:减速中 bit5:恒速运行 bit6:预励磁中 bit7:调谐中 bit8:过流限制中 bit9:DC 过压限制中 bit10:转矩限幅中 bit11:速度限幅 bit12:变频器故障 bit13:速度控制	1	0	*	0~FFFFH

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
		bit14:转矩控制 bit15:位置控制(保留)				
d0.14	开关量输入端子状态	0~FFH, 0:断开; 1:闭合	1	00	*	0~FFH
d0.15	开关量输出端子状态	0~1FH, 0:断开; 1:闭合	1	0	*	0~1FH
d0.16	AI1 输入电压	-10.00~10.00V	0.01V	0.00	*	0~2000
d0.17	AI2 输入电压	-10.00~10.00V	0.01V	0.00	*	0~2000
d0.18	AI3 输入电压	-10.00~10.00V	0.01V	0.00	*	0~2000
d0.19	AI1 调整后的百分比	-100.00%~110.00%	0.01%	0.00	*	0~20000
d0.20	AI2 调整后的百分比	-100.00%~110.00%	0.01%	0.00	*	0~20000
d0.21	AI3 调整后的百分比	-100.00%~110.00%	0.01%	0.00	*	0~20000
d0.22	A01 输出	0~100.0%(相对满量程的百分比)	0.1%	0.0%	*	0~1000
d0.23	A02 输出	0~100.0%(相对满量程的百分比)	0.1%	0.0%	*	0~1000
d0.24	过程闭环给定	-100.0~100.0% (相对满量程的百分比)	0.1%	0.0%	*	0~2000
d0.25	过程闭环反馈	-100.0~100.0% (相对满量程的百分比)	0.1%	0.0%	*	0~2000
d0.26	过程闭环误差	-100.0~100.0% (相对满量程的百分比)	0.1%	0.0%	*	0~2000
d0.27	过程闭环输出	-100.0~100.0% (相对满量程的百分比)	0.1%	0.0%	*	0~2000
d0.28	散热器 1 温度	0.0~150.0℃	0.1℃	0.0	*	0~1500
d0.29	散热器 2 温度	0.0~150.0℃	0.1℃	0.0	*	0~1500
d0.30	通电时间累计	0~最大计时 65535 小时	1 小时	0	*	0~65535
d0.31	运行时间累计	0~最大计时 65535 小时	1 小时	0	*	0~65535
d0.32	风扇运行时间累计	0~最大计时 65535 小时	1 小时	0	*	0~65535
d0.33	ASR 控制器输出	-300.0~300.0% (相对电机的额定转矩)	0.1%	0.0%	*	0~6000
d0.34	转矩给定	-300.0~300.0% (相对电机的额定转矩)	0.1%	0.0%	*	0~6000
d0.35	AI1 零偏	0~65535	1	0	*	0~65535
d0.36	AI2 零偏	0~65535	1	0	*	0~65535
d0.37	AI3 零偏	0~65535	1	0	*	0~65535
d0.38~ d0.45	保留	-	-	-	-	-
d1 组. 故障记录						
d1.00	故障记录 1	0:无异常记录 1:变频器加速运行时硬件或软件过电流(E001) 2:变频器减速运行时硬件或软	1	0	*	0~50

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
		件过电流 (E002) 3:变频器恒速运行时硬件或软件过电流 (E003) 4:变频器加速运行时硬件或软件过电压 (E004) 5:变频器减速运行时硬件或软件过电压 (E005) 6:变频器恒速运行时硬件或者软件过电压 (E006) 7:输入电压过高 (E007) 8:输入侧缺相 (E008) 9:输出侧缺相 (E009) 10:18.5kw 及以下检测输出电流过大; 22kw 及以上检测功率模块管压降过大 (E010) 11: 逆变模块散热器过热 (E011) 12: 整流模块散热器过热 (E012) 13:运行电流长时间大于变频器额定电流 (E013) 14:运行电流长时间大于电机额定电流 (E014) 15:外部设备故障 (E015) 16:EEPROM 读写错误 (E016) 17:变频器与上位机通讯不上 (E017) 18:电源板或者驱动板或接触器损坏造成接触器异常 (E018) 19:霍尔或驱动板异常造成电流检测电路故障 (E019) 20:保留 (E020) 21~22:保留 23:键盘参数拷贝出错 (E023) 24:矢量控制时电机自整定不良 (E024) 25:闭环矢量控制时码盘故障 (E025) 26:检测到变频器运行电流小于掉载设定值 (E026) 27:制动单元故障 (E027) 28~32: 保留				

功能码	名称	设定范围	最小单位	出厂设定值	更改	机内设定范围
		33: 变频器输出对地短路 (E033) 34: 变频器运行速度和编码器检测速度偏差超过允许值 (E034) 35~39: 保留 40: 扩展卡与控制板 SPI 通讯故障 (E040) 注:1>.E007 在 18.5G/22G 及以下不检测, 其余在停机后一直检测; 2>.E010 故障后 10 秒方可复位; 3>.若出现过流故障, 需延时 6 秒才能复位; 4>.出现故障告警时键盘显示故障为 AXXX (如.接触器故障时, 若保护动作键盘显示 E018, 若告警继续运行键盘显示 A018)				
d1.01	故障时刻母线电压	0~999V	1V	0V	*	0~999
d1.02	故障时刻实际电流	0.0~999.9A	0.1A	0.0A	*	0~9999
d1.03	故障时刻运行频率	0.00Hz~300.00Hz	0.01Hz	0.00Hz	*	0~30000
d1.04	故障时刻变频器运行状态	0~FFFFH	1	0000	*	0~FFFFH
d1.05	故障记录 2	0~55	1	0	*	0~50
d1.06	故障记录 3	0~55	1	0	*	0~50
d2 组. 本机信息						
d2.00	系列号	0~FFFF	1	100	*	0~65535
d2.01	软件版本号	0~65535	1	100	*	0~65535
d2.02	客户化定制版本号	0~65535	1	0	*	0~65535
d2.03	负载`类型选择	0:重载 G 1:轻载 L 2:冲击型负载 B 3:两相输出型负载 S 4~9:保留	1	0	—	0~9
d2.04	额定容量	输出功率, 0~999.9KVA (由机型自动设定)	0.1KVA	厂家设定	*	0~9999
d2.05	额定电压	0~60000V(由机型自动设定)	1V	厂家设定	*	0~60000
d2.06	额定电流标么值	0~999.9A(由机型自动设定)	0.1A	厂家设定	*	0~9999
d2.07	软件日期	0~65535	1	0	*	0~65535

Directory

Chapter 1	Safety	40
Chapter 2	Product introduction	41
2.1	Nameplate Information	41
2.2	VFD Model Rule	41
2.3	External dimension and weight.....	42
2.3.1	External dimension and weight.....	42
2.4.2	Operation panel and installation box	44
Chapter 3	Installation Environment	45
Chapter 4	Wiring Guide of VFD	46
4.1	Wiring and Configuration of Main circuit terminal.....	46
4.1.1	Terminal Type of Main Loop's Input and Output	46
4.1.2	Wiring of VFD for Basic Operation	47
4.2	Wiring and configuration of control circuit	47
4.2.1	Wiring of control circuit terminal.	47
Chapter 5	Operation Instructions of Kinco VFD	51
5.1	Using Operation Panel	51
5.1.1	Operation panel appearance and keys' function description.....	51
5.1.2	Function Descriptions of LED and Indicators	52
5.1.3	Display status of operation panel.....	52
5.1.4	Panel Operation.....	52
Chapter 6	Troubleshooting.....	54
Chapter 7	List of Parameters	55

Chapter 1 Safety

 Danger	 Attention
• Only qualified personnel shall wire the drive, or it may cause electric shock. • Perform the maintenance job after confirming that the charging LED is off or the DC Bus voltage is below 36V, or it may cause electric shock. • Never wire the drive unless the input AC supply is totally disconnected, or it may cause electric shock. • It is prohibited from changing internal parts or circuit.	• Don't install the drive in places where water pipes may leak onto it. • Don't allow screws, washers and other metal foreign matters to fall inside the drive, otherwise there is a danger of fire or damage; • Don't install the drive under direct sunshine, otherwise it may be damaged; • Don't short circuit +//B1 and terminal (-), otherwise there is a danger of fire or the drive may be damaged. • Don't apply supply voltage (AC 220V or higher) to control terminals except terminals R1a, R1b and R1c. • B1 and B2 are used to connect the brake resistor, do not shortcut them, or the brake unit may be damaged.

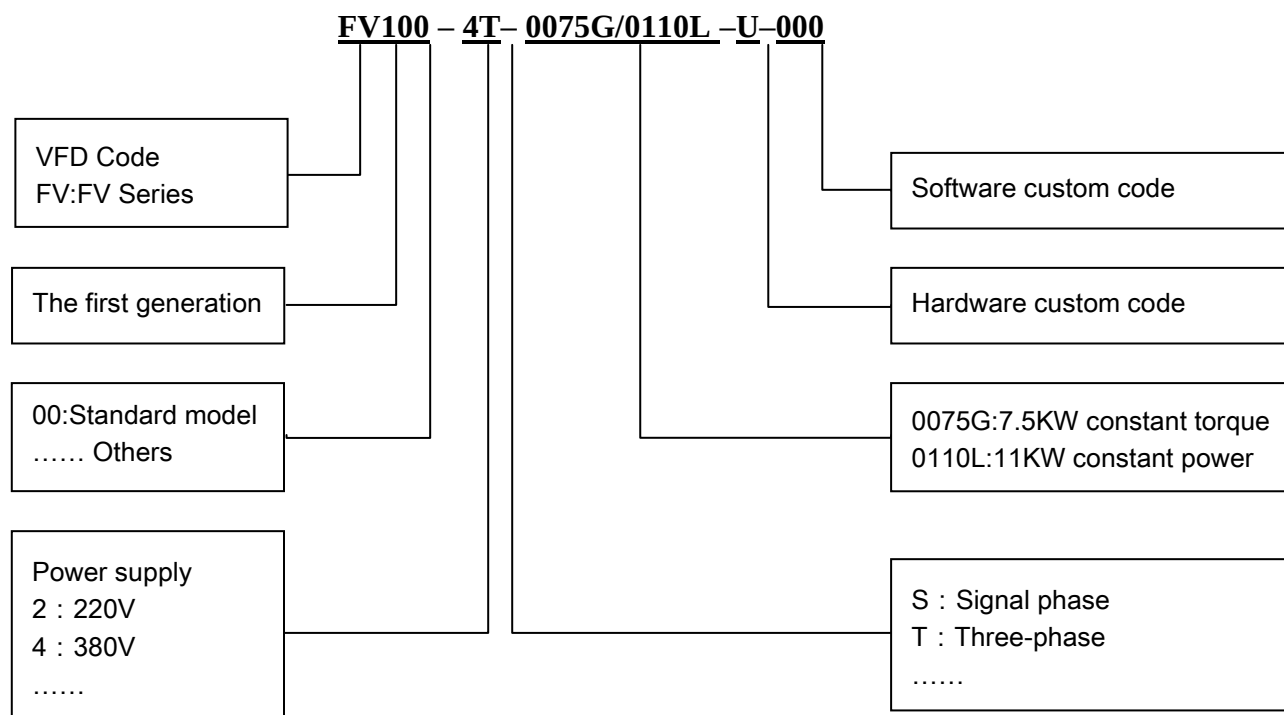
Chapter 2 Product introduction

In this chapter we introduce the basic product information of specifications, model, and structure and so on.

2.1 Nameplate Information



2.2 VFD Model Rule



2.3 External dimension and weight

2.3.1 External dimension and weight

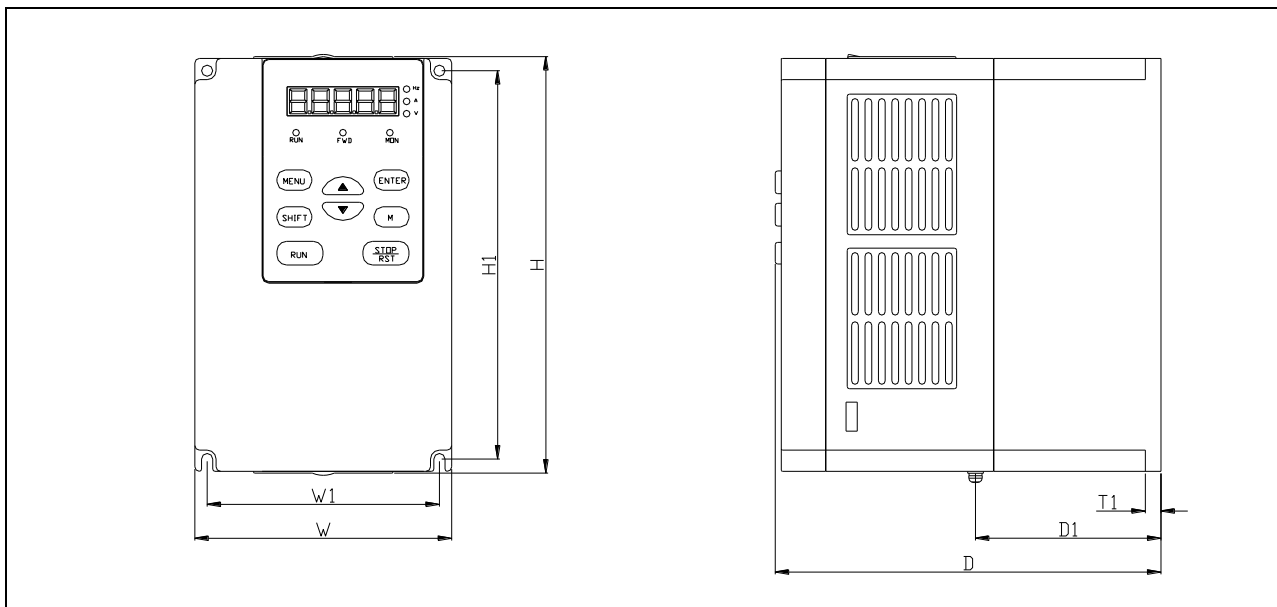


Fig 2-1 FV100-4T-0037G/0055L and lower power VFD

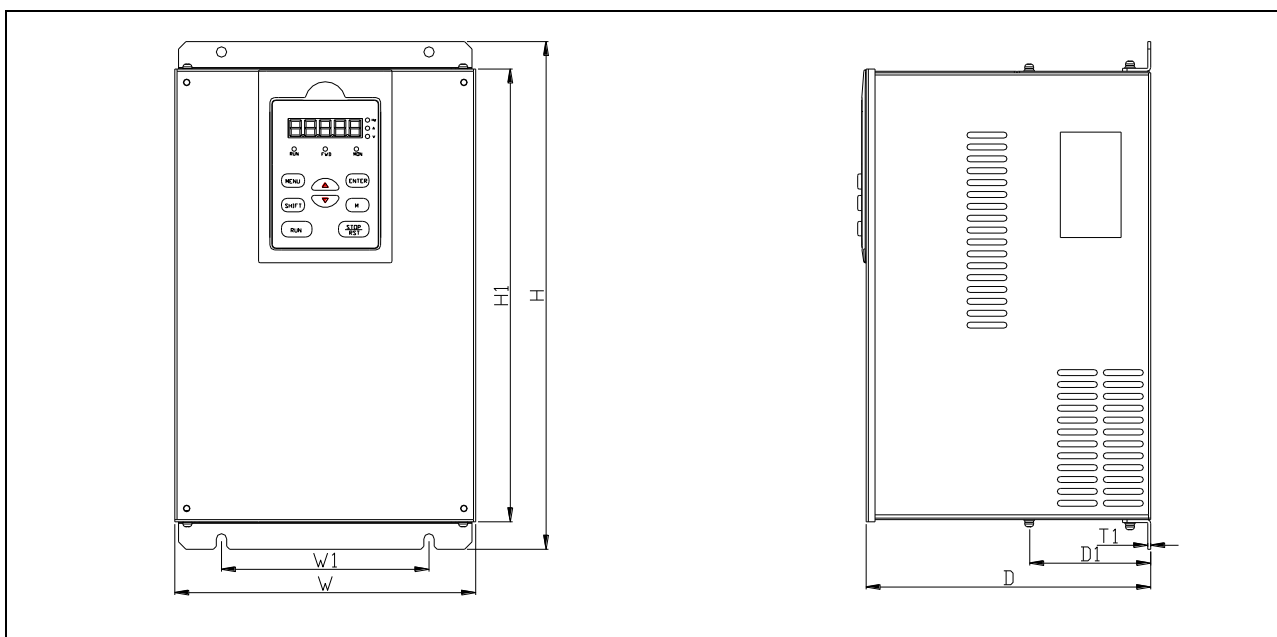


Fig 2-2 FV100-4T-0055G/0075L~FV100-4T-4000G/4500L

Table 2-1 Mechanical parameters

VFD model (G.Constant torque load; L.Draught fan and water pump load)	External dimension and (mm)								Weight (kg)
	W	H	D	W1	H1	D1	T1	Installation hole(d)	
FV100-2S-0004G	115	185	171	106	176	65	7	5	2
FV100-2S-0007G									
FV100-2S-0015G									
FV100-2S-0022G									
FV100-2T-0004G									
FV100-2T-0007G									
FV100-2T-0015G									
FV100-2T-0022G									
FV100-2T-0037G									
FV100-4T-0007G/0015L									
FV100-4T-0015G/0022L									
FV100-4T-0022G/0037L									
FV100-4T-0037G/0055L									
FV100-2T-0055G	165	274	193	110	264	-	2	6	6
FV100-2T-0075G									
FV100-4T-0055G/0075L									
FV100-4T-0075G/0110L									
FV100-2T-0110G	194	324	197	120	312	-	2	6	8
FV100-4T-0110G/0150L									
FV100-4T-0150G/0185L									
FV100-4T-0185G/0220L									
FV100-2T-0150G	297	451	224	200	433	-	3	7	18
FV100-2T-0185G									
FV100-2T-0220G									
FV100-4T-0220G/0300L									
FV100-4T-0300G/0370L									
FV100-4T-0370G/0450L	320	535	224	220	512	88.5	3	10	31
FV100-4T-0450G/0550L									
FV100-4T-0550G/0750L	373	649	262	240	628	102.5	3	10	42
FV100-4T-0750G/0900L									
FV100-4T-0900G/1100L	440	758	285	340	737	102	2.5	11	73
FV100-4T-1100G/1320L	430	780	330	280	755	168	3	11	76
FV100-4T-1320G/1600L									
FV100-4T-1600G/1850L	530	940	380	340	910	206	4	14	114
FV100-4T-1850G/2000L									
FV100-4T-2000G/2200L									
FV100-4T-2200G/2500L	690	1006	380	500	974	207	4	14	156
FV100-4T-2500G/2800L									
FV100-4T-2800G/3150L									
FV100-4T-3150G/3550L	810	1228	400	520	1196	209	4	14	225
FV100-4T-3550G/4000L									
FV100-4T-4000G/4500L									

2.4.2 Operation panel and installation box

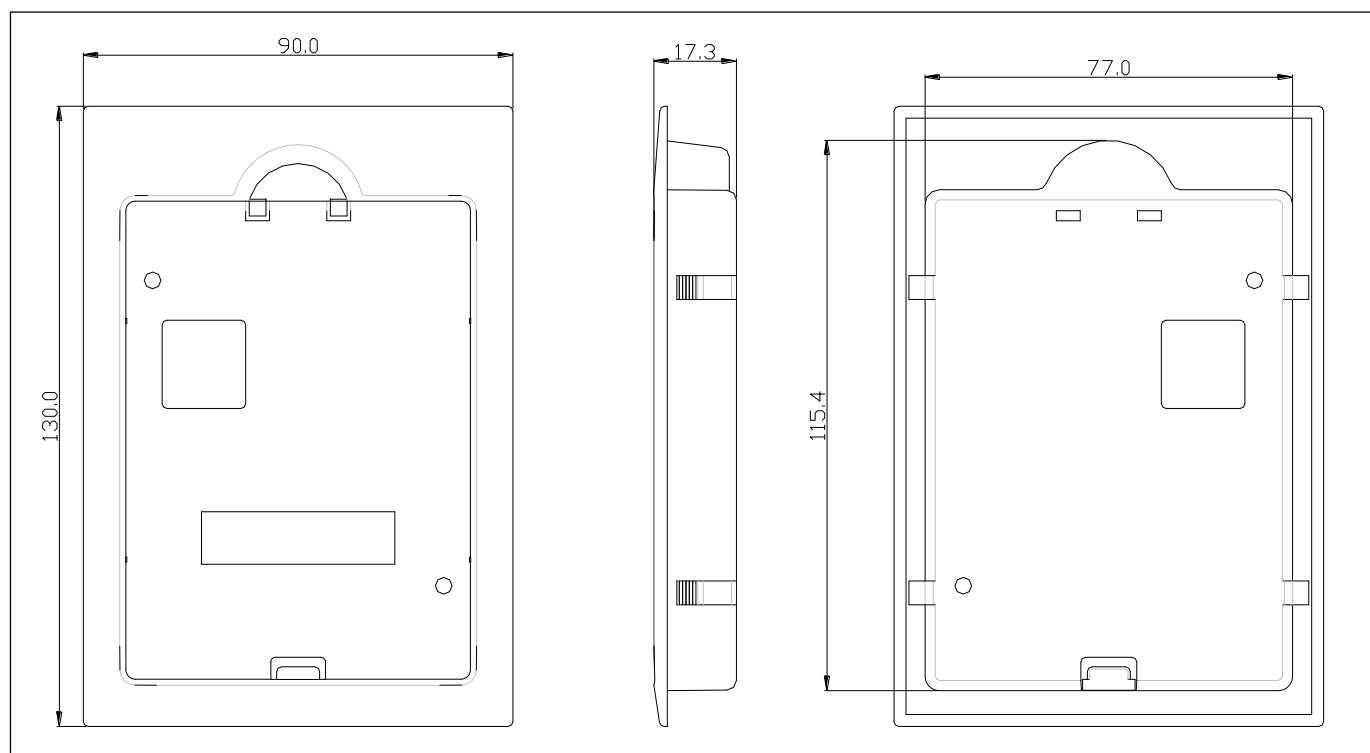


Fig 2-3 Installation box dimension

Chapter 3 Installation Environment

The requirements on mounting space and clearance are shown in Fig. 3-1 and Fig. 3-2.

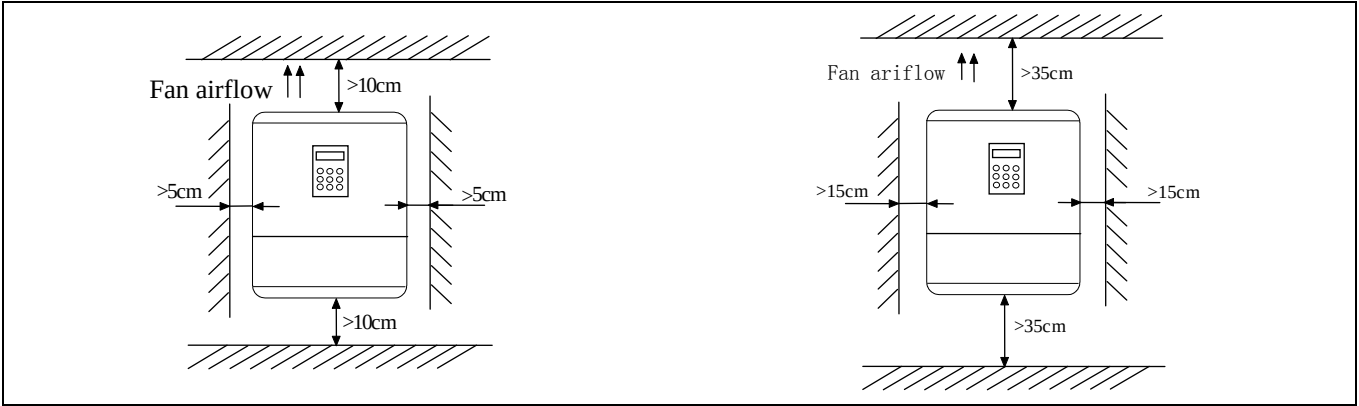


Fig 3-1 Installation interval (Power below 45kW)

Fig 3-2 Installation interval(Power above 55kW)

When two VFD are mounted and one is on the top of another, an air flow diverting plate should be fixed in between them as shown in Fig. 3-3.

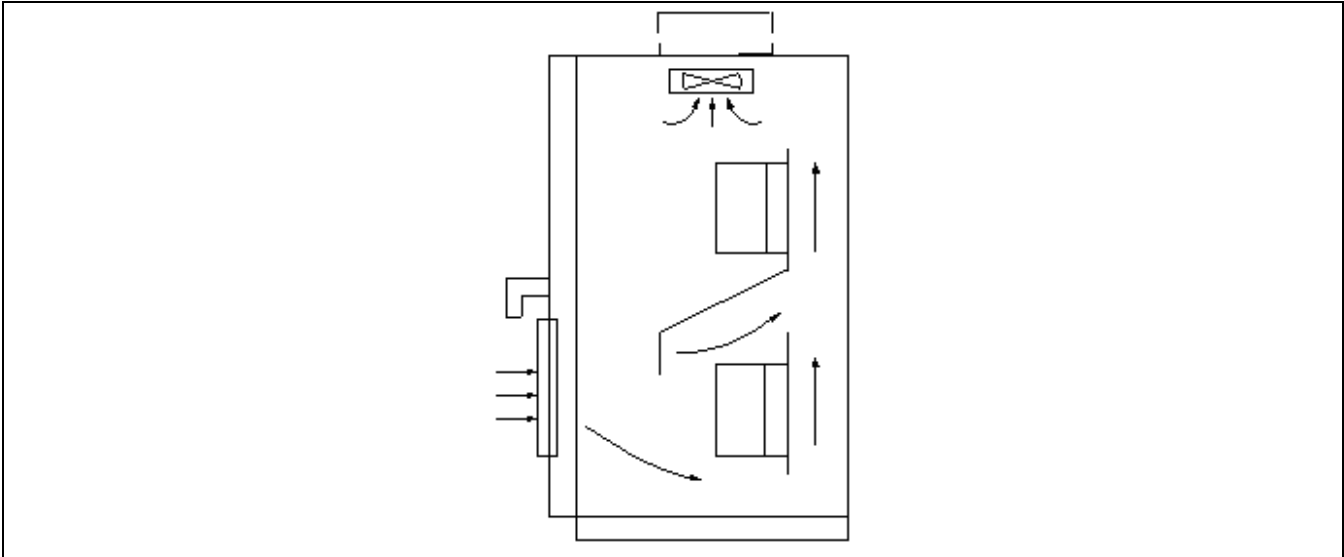


Fig 3-3 Installation of several VFD

Chapter 4 Wiring Guide of VFD

4.1 Wiring and Configuration of Main circuit terminal

4.1.1 Terminal Type of Main Loop's Input and Output

Table 4-1 Description of main loop terminal

Terminal name	Function description
L、N	Single phase 220VAC input terminal
R、S、T	3-phase 380V AC input terminal
⊖	DC negative bus output terminal
⊕1、⊕2	Reserved terminal for external DC reactor
⊕2、⊖	External braking unit
B1、B2	Braking resistor terminal
U、V、W	3-phase AC output terminal
PE	Shield PE terminal

4.1.2 Wiring of VFD for Basic Operation

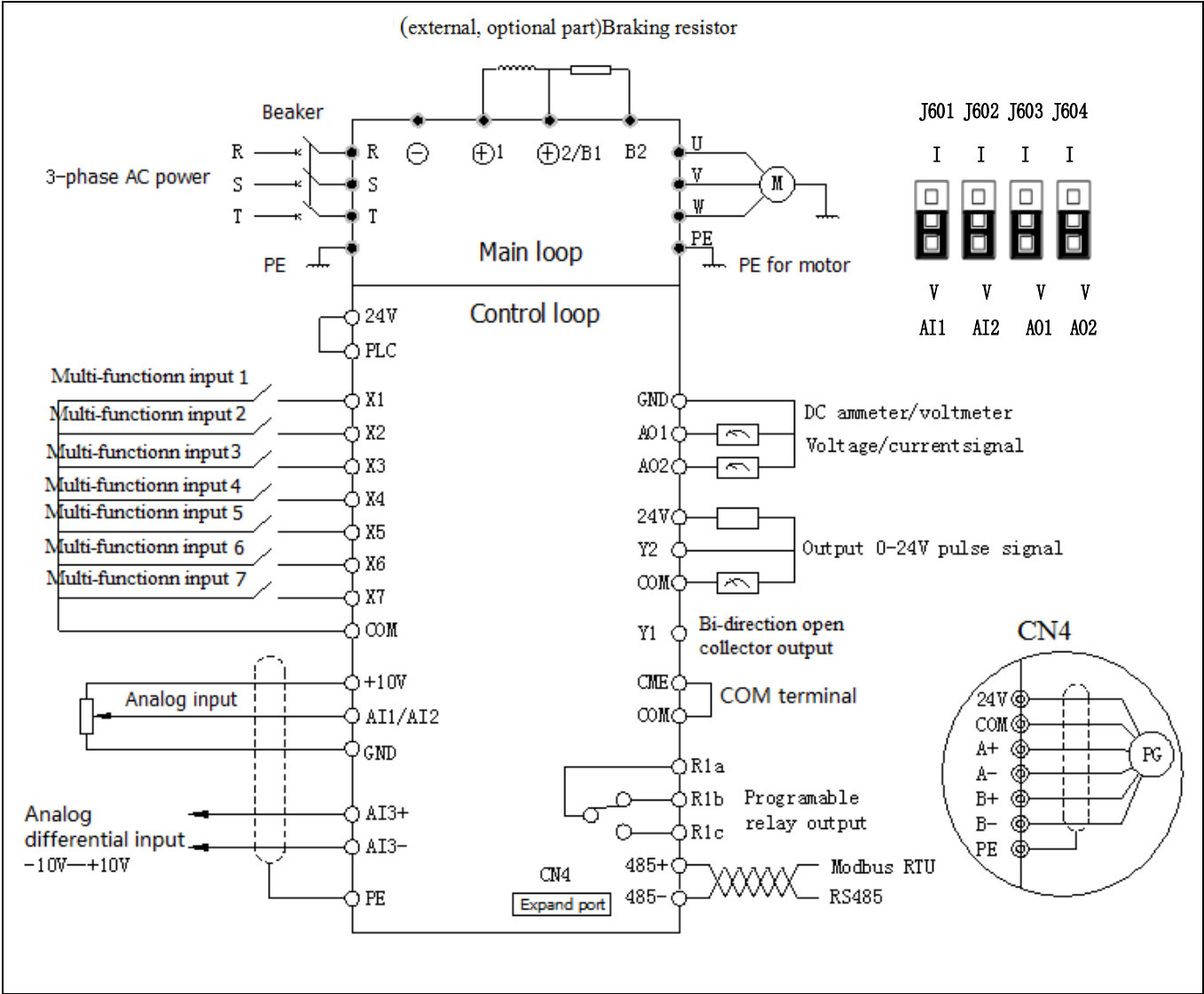


Fig.4-1 Basic wiring chart

4.2 Wiring and configuration of control circuit

4.2.1 Wiring of control circuit terminal.

Wire the terminals correctly before using the Drive. Refer to the table 4-2 for control circuit terminal function

Table 4-2 Control circuit terminal function

Sequence No.	Function
1	Analog input and output terminal, RS232 and RSRS485 communication port

Note

It is recommended to use cables bigger than 1mm2 to connect to the terminals.

Arrangement of control circuit terminals is as follows.

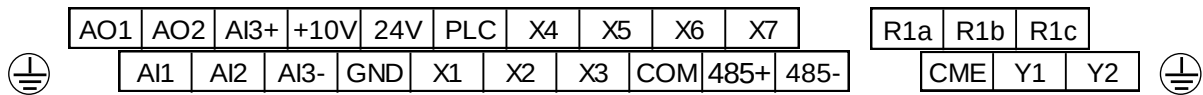
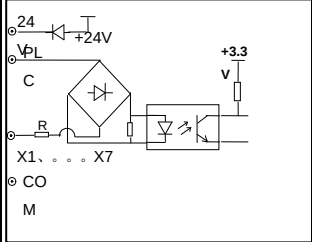


Fig.4-2 Arrangement of control terminals

Refer to table 4-3 for description of each terminal

Table 4-3 function list of each list

Category	Terminals	Name	Function description	Specification
Shield		Shielded PE	PE terminal connected to shielding layer. 485 communication cable, Analog signal cable, motor power cable shield can be connected to this terminal here	Connected to PE terminal of main loop inside
Power supply	+10	+10V Power supply	Provide +10V power supply	Maximum current output is 5mA
	GND	+10V GND of Power supply	GND for analog signal and 10V power supply	Isolated from COM and CME inside
Analog input	AI1	Signal-ended input AI1	Can accept analog voltage or current input, jumper AI1 can select voltage or current input mode.(Reference ground.GND)	Input voltage range.-10V~10V(Input impedance 45Ω)Resolution1/4000
	AI2	Signal-ended input AI2	Can accept analog voltage or current input, jumper AI2 can select voltage or current input mode.(Reference ground.GND)	
	AI3+	Analog voltage differential input AI3+ or analog voltage single-ended input	When connected to the analog voltage differential input, AI3+ is the same-phase input and AI3- is the inverted phase input; when connected to the analog voltage single-ended input, AI3+ is signal input, AI3- should connect to GND (Reference ground.GND)	Input voltage range-10V~+10V(Input resistor.15kΩ)Resolution.1/4000
	AI3-	Analog voltage differential input AI3- or analog voltage single-ended input		
Analog output	AO1	Analog output 1	Providing analog voltage or current output, they are selected by the jumper AO1. The default setting is output voltage, refer to the function code A6.28 for detail.(Reference ground.GND)	Voltage output range.0V~10V Current output range.0/4~20mA

Category	Terminals	Name	Function description	Specification
	AO2	Analog output 2	Providing analog voltage or current output, they are selected by the jumper AO2. The default setting is output voltage, refer to the function code A6.29 for detail.(Reference ground.GND)	Voltage output range.0V~10V Current output range.0/4~20mA
Communication	RS485+	RS485 communication port	485+	Standard RS-485 communication port, please use twisted-pair cable or shielded cable.
	RS485-		485-	
Multi-function input terminal	X1	Multi-function input terminal 1	Can be defined as multi-function digital input terminal.(Refer to the A6 group, form A6.00 to A6.06)	Optocoupler isolation input Input resistor.R=3.3kΩ Maximum frequency input of X1~X6.200Hz Maximum input frequency of X7.100kHz Input voltage range.2~30v 
	X2	Multi-function input terminal 2		
	X3	Multi-function input terminal 3		
	X4	Multi-function input terminal 4		
	X5	Multi-function input terminal 5		
	X6	Multi-function input terminal 6		
	X7	Multi-function input terminal 7		
Multi-function output terminal	Y1	Bi-direction open-collector output	Can be defined as multi-function digital output terminal , refer to the A6.14 for detail (Com port.CME)	Optocoupler isolation output Maximum working voltage.30v Maximum output current.50mA
	Y2	Open collector pulse terminal	Can be defined as multi-function pulse signal output terminal , refer to the A6.25 for detail(Com port.CME)	Maximum output frequency.100kHz(Depend on the A6.26)
Power supply	24V	+24V power supply	Providing +24V power for others	Maximum output current.200mA
Common port	PLC	Common port of multi-function input	Common port of Multi-function input (Short cut with 24V in default)	Common port of X1~X7, PLC is isolated from 24V internally
	COM	Common port of 24V power supply	Three common ports in all, cooperate with other terminals	COM is isolated from CME and GND inside the drive
	CME	common port of Y1 output	Common port of multi-function output terminal Y1	

Category	Terminals	Name	Function description	Specification
Relay output terminal 1	R1a	Relay output	Can be defined as multi-function relay output terminal(Refer to the A6.16 for detail)	R1a-R1b.Normally closed, R1a-R1c.normally open
	R1b			Contact capacity . AC250V/2A(COS Φ =1) AC250V/1A(COS Φ =0.4)
	R1c			DC30V/1A Input voltage for overvoltage class of relay output terminal is overvoltage class II

Chapter 5 Operation Instructions of Kinco VFD

5.1 Using Operation Panel

5.1.1 Operation panel appearance and keys' function description

Operation panel is used to setup the drive and display parameters, it is LED display. As shown in Fig.5-1

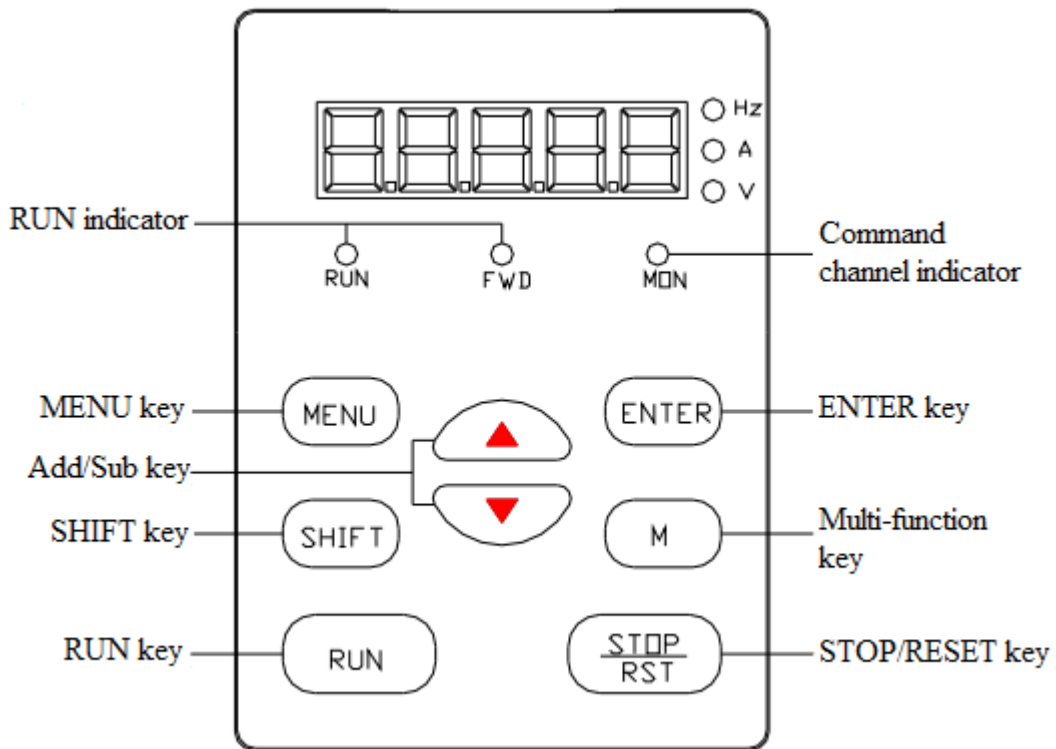


Fig.5-1 Illustration of operation panel

There are 8 keys on the operation panel and functions of each key are shown in Table 5-1.

Table 5-1 Function list of operation panel

Key	Name	Function
MENU	Program/exit key	Enter or exit programming status
ENTER	Function/data key	Enter next level menu or confirm data
▲	Increase key	Increase data or parameter
▼	Decrease key	Decrease data or parameter
SHIFT	Shift key	In editing status, press this key to select the Bit to be modified. In other status, this key is used to switch the parameters to display.
M	Multi-function key	Use the b4.01 to configure the function of this key
RUN	Run key	In panel control mode, press this key to run the drive.
STOP/RST	Stop/reset key	Press this key to stop or reset the drive.

5.1.2 Function Descriptions of LED and Indicators

The operation panel consists of a 5-digits eight segments LED display, 3 LED indicators for unit and 3 LED indicators for status which is as shown in Fig.5-1. The LED display can display the status parameters, function codes and error codes of the drive. The 3 unit indicators are corresponding to three units, the descriptions of three status indicator are shown in table 5-2

Table 5-2

Indicator	Status	Current status of drive
Operating status indicator(RUN)	Off	Stop
	On	Run
Operating direction indicator(FWD)	Off	Forwards
	On	Reverse
Operating mode indicator(MON)	On	Controlled by operation panel
	Off	Controlled by terminals
	Flashing	Communicating

5.1.3 Display status of operation panel

FV100 operation panel can display the parameters in stopping, operating, editing and function code..

1. Parameters displayed in stopping status

When the drive is in stop status, the operation panel displays the stop status parameter. Pressing the **SHIFT** key can display different stop status parameters in cycle (Defined by function code b4.05)

2. Parameters displayed in operation status

When the drive receives operating command, it starts running and its panel will display the operation status parameters, the **RUN** indicator turns on. The status of **FWD** indicator depends on the operation direction. The unit indicator display the unit of the parameter, by pressing the **SHIFT** key can display different operation parameters in cycle (Defined by function code b4.05)

3. Parameters displayed in error status

When the drive detects a fault signal, the panel will display the flashing fault code..

Press the **SHIFT** key to display the stop status parameters and error code in cycle. By pressing the **STOP/RST**, control terminal or communication command to reset the error. If the error exists still, then the panel keeps displaying the error code.

4. Parameter edit status

When the drive is in stop, operation or error state, press **MENU/ESC** can enter edit status(If password needed, please refer to description of A0.00),. Edit state displays in 2-level menu, they are.function code group or function code number→function code parameter value. You can press **ENTER** to enter parameter displayed status. In function parameter displayed status, press **ENTER** to save the settings, and press **MENU** to exit the menu.

5.1.4 Panel Operation

Various operations can be completed on the operation panel; the following are 5 common examples. Refer to function code list in chapter 9 for detail function code description.

Example 1.Set parameters

Example. Change the value in A0.03 from 50.00Hz to 30Hz

1. In the stop parameter displaying state, press **MENU** to enter the first level A0.00;
 2. Press **△** to change A0.00 to A0.03;
 3. Press **ENTER** to enter the second level menu
 4. Press the **SHIFT** to change the marker to the highest bit
 5. Press the **▽** to change the 50.00 to 30.00
 6. Press the **ENTER** to confirm above change and back to the first level menu. Then the parameter is changed successfully.
- The above operations are shown in following picture.

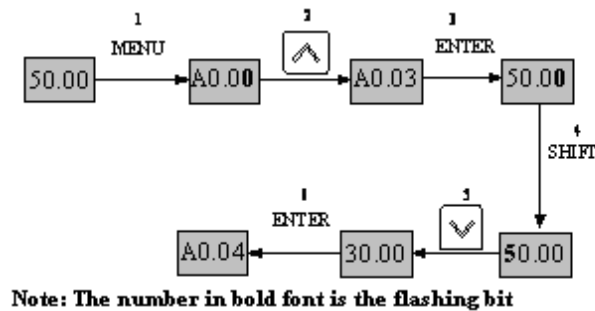


Fig 5-2 Example of setting parameter

In function parameter displaying status, if there is no bit flashing. It means that this function code can not be changed, the possible reason are.

1. This function code is unchangeable parameter. Like actual detected parameter, operation log parameter and so on
2. This parameter can not be changed when running; you need stop the VFD to edit the parameter
3. The parameters are protected. When the b4.02 is 1, function code can not be changed. It is to protect the VFD from wrong operation. If you want to edit this parameter, you need set function code b4.02 to 0.

Chapter 6 Troubleshooting

Table 6-1 lists the possible faults of FV100, error code E001~E040. When VFD reports error, users could check this list and record the detailed fault phenomena before seeking service from supplier.

Table 6-1 Faults

Error code	Error category
E001	Hardware or software over current during acceleration
E002	Hardware or software over current during deceleration.
E003	Hardware or software over current during running in constant speed.
E004	Hardware or software over voltage during acceleration.
E005	Hardware or software over voltage during deceleration.
E006	Hardware or software over voltage during running in constant speed.
E007	Input voltage is too high
E008	Input phase loss
E009	Output phase loss
E010	18.5kw below models.output current is detected too large; 22kw above models.IGBT module is detected voltage drop too large.
E011	IGBT module's heatsink overheat.
E012	Rectifier's heatsink overheat.
E013	Running current is larger than VFD rated current for long time.
E014	Running current is larger than motor rated current for long time.
E015	External device fault.
E016	EEPROM W/R fault.
E017	VFD can not get communication with host.
E018	Power board/drive board/contactors damage causes contactors abnormal.
E019	Hall/drive board abnormal causes current detection circuit fault.
E020	Reserved
E021~E022	Reserved
E023	Keyboard parameter copy error
E024	Auto tuning fault in vector control.
E025	Encoder signal fault in lose-loop control
E026	VFD running current is detected smaller than set value of load lost.
E027	Braking unit fault.
E028~E032	Reserved
E033	VFD output is short circuit to earth
E034	VFD running speed and encoder detected speed deviation exceeds allowed value.
E035~E039	Reserved
E040	Extension card and control board SPI communication fault

Note.

VFD braking resistor short circuit may lead to VFD braking unit damage.

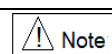
Chapter 7 List of Parameters

FV100 series VFD's parameters are organized in groups. Each group has several parameters that are identified by "Group No.+ Function Code. There are AX,YZ letters in other content in this manual,it indicate the YZ function code in group X.For example,"A6.08" belongs to group A6 and its function code is 8.

The parameter descriptions are listed in the tables below.

Table 7-1 Descriptions of Function Code Parameter Structure Table

No.	Name	Description
1	Function code	The number of function code
2	Name	The name of function code
3	Setting range	The setting range of parameters.
4	Unit	The minimum unit of the setting value of parameters.
5	Factory setting	The setting value of parameters after the product is delivered
6	Modification	The "modification" column in the parameter table means whether the parameter can be modified. "O"Denotes the parameters can be modified during operation or at STOP state; "×".Denotes the parameters cannot be modified during operating; "* ".Denotes the parameters are actually detected and cannot be revised; "—".Denotes the parameters are defaulted by factory and cannot be modified ; (When you try to modify some parameters, the system will check their modification property automatically to avoid mis-modification.)
Note.1. Parameter settings are expressed in decimal (DEC) and hexadecimal (HEX). If the parameter is expressed in hexadecimal, the bits are independent to each other.The value of the bits can be 0~F. 2. "Factory settings" means the default value of the parameter. When the parameters are initialized, they will resume to the factory settings. But the actual detected or recorded parameters cannot be initialized;		



Note

It is defaulted that no parameters except A0.03 are allowed changing. If you need change them, please first set b4.02(parameter write-in protection) from 1 to 0.

Table 7-2 List of Parameters

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
Group A0.Basic operating parameters						
A0.00	User password	0:No password protection. Others:Password protection.	1	0	O	0~FFFF
A0.01	Control mode	0:Vector control without PG 1:Vector control with PG 2:V/F control	1	2	X	0~2

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
A0.02	Main reference frequency selector	0:Digital setting Keyboard UP/DN or terminal UP/DN 1:AI1 2:AI2 3:AI3 4:Set via DI terminal(PULSE) 5:Reserved	1	0	O	0~5
A0.03	Set the operating frequency indigital mode	A0.11~A0.10	0.01 Hz	50.00	O	0~30000
A0.04	Methods of inputting operating commands	0:Panel control 1:Terminal control 2:Communication control	1	1	O	0~2
A0.05	Set running direction	0:Forward 1:Reverse	1	0	O	0~1
A0.06	Acc time 1	0.0~6000.0	0.1S	2kw or below:6.0s 30kw~45kw: 20.0s 45kw or above:30.0s	O	0~60000
A0.07	Dec time 1	0.0~6000.0	0.1S	2kw or below:6.0s 30kw~45kw: 20.0s 45kw or above:30.0s	O	0~60000
A0.08	Max. output frequency	upper limit of frequency A0.11~300.00Hz	0.01 Hz	50.00	X	0~30000
A0.09	Max. output Voltage	0~1140	1V	VFD's rated values	X	0~60000
A0.10	Upper limit of frequency	A0.12~A0.09	0.01 Hz	50.00	O	0~30000
A0.11	Lower limit of frequency	0.00~A0.11	0.01 Hz	0.00	O	0~30000
A0.12	Basic frequency	0.00~ Max. output frequency A0.08	0.01 Hz	50.00	O	0~30000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
A0.13	Torque boost	0.0%(Auto), 0.1%~30.0%	0.1%	0.0%	O	0~300
Group A1.Start and stop parameters						
A1.00	Starting mode	0:Start from the starting frequency 1:Brake first and then start 2:Start on the fly(including direction judgement), start at starting frequency 3:Current search type speed tracking starting (only valid in V/F control)	1	0	X	0~2
A1.01	Starting frequency	0.00~60.00Hz	0.01 Hz	0.00Hz	O	0~6000
A1.02	Holding time of starting frequency	0.00~10.00s	0.01s	0.00s	O	0~1000
A1.03	DC injection braking current at start	0.0%~100.0% drive's rated current	0.1%	0.0%	O	0~1000
A1.04	DC injection braking time at start	0.00(No action) 0.01~30.00s	0.01s	0.00s	O	0~3000
A1.05	Stopping mode	0:Dec-to-stop 1:Coast-to-stop 2:Dec-to-stop+DC injection braking	1	0	X	0~2
A1.06	DC injection braking initial frequency at stop	0.00~60.00Hz	0.01 Hz	0.00Hz	O	0~6000
A1.07	Injection braking waiting time at stop	0.00~10.00s	0.01s	0.00s	O	0~1000
A1.08	DC injection braking current at stop	0.0%~100.0% drive's rated current	0.1%	0.0%	O	0~1000
A1.09	DC injection braking time at stop	0.0(No action) 0.01~30.00s	0.01s	0.00s	O	0~3000
A1.10	Restart after power failure	0:Disable 1:Enable	1	0	X	0~1
A1.11	Delay time for restart after power	0.0~10.0s	0.1s	0.0s	O	0~100
A1.12	Anti-reverse running function	0:Disabled 1:Enabled	1	0	X	0~1

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		(It will operate at zero frequency when input a reverse command)				
A1.13	Delay time of run reverse/forward	0.00~360.00s	0.01s	0.00s	O	0~36000
A1.14	Switch mode of runreverse/forward(Reserved)	0:Switch when pass 0Hz 1:Switch when pass starting frequency	1	0	X	0~1
A1.15	Stopping speed	0.00~150.00Hz	0.01 Hz	0.10Hz	X	0~15000
A1.16	Action voltage of braking unit	650~750V	1	720	X	650~750
A1.17	Dynamic braking	0:Disable, 1:Enable	1	0	X	0~1
A1.18	Ratio of working time of braking unit to drive's total working time	0.0~100.0%	0.1%	80.0%	O	0~1000
A1.19	Selection of power outage restarting mode	0:Current finding mode (Only valid in V/F control; Otherwise set to 0, starting with vector tracking) 1:Vector tracking mode 2:Depend on the parameter A1.00	1	0	X	0~2
Group A2.Frequency setting						
A2.00	Auxiliary reference frequency selector	0:No auxiliary reference frequency 1:AI1 2:AI2 3:AI3 4:Set by DI (PULSE)terminal 5:output by PID process	1	0	O	0~5
A2.01	Main and auxiliary reference frequency calculation	0:+ 1:- 2:MAX(Main reference , Auxiliary reference) 3:MIN(Main reference , Auxiliary reference)	1	0	O	0~3
A2.02	UP/DN rate	0.01~99.99Hz/s	0.01	1.00	O	1~9999
A2.03	UP/DN regulating control	Unit's place of LED: 0:Save reference frequency upon power outage	1	000	O	0~111H

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		1:Not save reference frequency upon power outage. Ten's place of LED: 0:Hold reference frequency at stop 1:Clear reference frequency at stop Hundred's place of LED: 0:UP/DN integral time valid 1:UP/DN speed value				
A2.04	Jog operating frequency	0.10~50.00Hz	0.01 Hz	5.00	O	10~5000
A2.05	Interval of Jog operation	0.0~100.0s	0.1s	0.0	O	0~1000
A2.06	Skip frequency 1	0.00~300.00Hz	0.01 Hz	0.00	X	0~30000
A2.07	Range of skip frequency 1	0.00~30.00Hz	0.01 Hz	0.00	X	0~3000
A2.08	Skip frequency 2	0.00~300.00Hz	0.01 Hz	0.00	X	0~30000
A2.09	Range of skip frequency	0.00~30.00Hz	0.01 Hz	0.00	X	0~3000
A2.10	Skip frequency 3	0.00~300.00Hz	0.01 Hz	0.00	X	0~30000
A2.11	Range of skip frequency 3	0.00~30.00Hz	0.01 Hz	0.00	X	0~3000
Group A3.Setting curve						
A3.00	Reference frequency curve selection	LED unit's place.AI1 curve selection 0:Curve 1 1:Curve 2 2:Curve 3 3:Curve 4 LED ten's place.AI2 curve selection 0:Curve 1 1:Curve 2 2:Curve 3 3:Curve 4 LED hundred's place.AI3 curve selection 0:Curve 1 1:Curve 2 2:Curve 3 3:Curve 4	1	0000	O	0~3333H

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		LED thousand's place.Pulse input curve selection 0:Curve 1 1:Curve 2 2:Curve 3 3:Curve 4				
A3.01	Max reference of curve 1	A3.03~110.00%	0.01 %	100.00%	O	0~11000
A3.02	Actual value corresponding to the Maxreferenceof curve 1	Reference frequency: 0.0~100.00%Fmax Torque.0.0~300.00%Te	0.01 %	100.00%	O	0~10000
A3.03	Min reference of curve 1	0.0%~A3.01	0.01 %	0.00%	O	0~11000
A3.04	Actual value corresponding to the Min reference of curve 1	The same as A3.02	0.01 %	0.00%	O	0~10000
A3.05	Max reference of curve 2	A3.07~110.00%	0.01 %	100.00%	O	0~11000
A3.06	Actual value corresponding to the Max reference of curve 2	The same as A3.02	0.01 %	100.00%	O	0~10000
A3.07	Min referenceof curve 2	0.0%~A3.05	0.01 %	0.00%	O	0~11000
A3.08	Actual value corresponding to the Min reference of curve 2	The same as A3.02	0.01 %	0.00%	O	0~10000
A3.09	Max reference of curve 3	A3.11~110.00%	0.01 %	100.00%	O	0~11000
A3.10	Actual value corresponding to the Max reference of curve 3	The same as A3.02	0.01 %	100.00%	O	0~10000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
A3.11	Min reference of curve 3	0.0%~A3.09	0.01 %	0.00%	O	0~11000
A3.12	Actual value corresponding to the Min reference of curve 3	The same as A3.02	0.01 %	0.00%	O	0~10000
A3.13	Max reference of curve 4	A3.15~110.00%	0.01 %	100.00%	O	0~11000
A3.14	Actual value corresponding to the Max reference of curve 4	The same as A3.02	0.01 %	100.00%	O	0~10000
A3.15	Reference of inflection point 2 of curve 4	A3.17~A3.13	0.01 %	100.00%	O	0~11000
A3.16	Actual value corresponding to the Min reference of inflection point 2 of curve 4	The same as A3.02	0.01 %	100.00%	O	0~10000
A3.17	Reference of inflection point 1 of curve 4	A3.19~A3.15	0.01 %	0.00%	O	0~11000
A3.18	Actual value corresponding to the Min reference of inflection point 1 of curve 4	The same as A3.02	0.01 %	0.00%	O	0~10000
A3.19	Min reference of curve 4	0.0%~A3.17	0.01 %	0.00%	O	0~11000
A3.20	Actual value corresponding to the Min reference of curve 4	The same as A3.02	0.01 %	0.00%	O	0~10000
A3.21	Characteristic selection of curve	LED unit's place.Characteristic choice of curve 1 0:set 0 Hz when frequency < 0 Hz	1	0000	O	0000~222 2H【0000】

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		1:symmetrical about origin 2:absolute value LED unit's place: Characteristic choice of curve 2 0:set 0 Hz when frequency < 0 Hz 1:symmetrical about origin 2:absolute value LED hundred's place: Characteristic choice of curve 3 0:set 0 Hz when frequency < 0 Hz 1:symmetrical about origin 2:absolute value LED thousand's place: Characteristic choice of curve 4 0:set 0 Hz when frequency < 0 Hz 1:symmetrical about origin 2:absolute value				
Group A4.Acc/Dec parameters						
A4.00	Acc/Dec mode	0:Linear Acc/Dec1:S curve	1	0	X	0~1
A4.01	Acc time 2	0.0~6000.0	0.1s	20.0s	O	0~60000
A4.02	Dec time 2	0.0~6000.0	0.1s	20.0s	O	0~60000
A4.03	Acc time 3	0.0~6000.0	0.1s	20.0s	O	0~60000
A4.04	Dec time 3	0.0~6000.0	0.1s	20.0s	O	0~60000
A4.05	Acc time 4	0.0~6000.0	0.1s	20.0s	O	0~60000
A4.06	Dec time 4	0.0~6000.0	0.1s	20.0s	O	0~60000
A4.07	S curve acceleration starting time	10.0%~50.0%(Acc time) A4.07+ A4.08≤90%	0.1%	20.0%	O	100~500
A4.08	S curve acceleration ending time	10.0%~80.0%(Acc time) A4.07+ A4.08≤90%	0.1%	20.0%	O	100~800
A4.09	S curve deceleration starting time	10.0%~50.0%(Dec time) A4.09+ A4.10≤90%	0.1%	20.0%	O	100~500
A4.10	S curve deceleration ending time	10.0%~70.0%(Dec time) A4.09+ A4.10≤90%	0.1%	20.0%	O	100~700
A4.11~ A4.21	Reserved	-	1	0	O	0~65535
A4.22	A4.22Switch	0.00~300.00Hz 【000.00】	0.01	0.00Hz	X	0~30000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	frequency for Acc/Dec time 1 and Acc/Dec time 2.	Acc/Dec time 2 is selected when output frequency is less than A4.22	Hz			
A4.23~A4.25	Reserved	-	1	0	O	0~65535
Group A5.Control parameters						
A5.00	Speed/torque control mode	0:Speed control mode 1:Torque control mode	1	0	X	0~1
A5.01	ASR1-P	0.1~200.0	0.1	20.0	O	1~2000
A5.02	ASR1-I	0.000~10.000S	0.001s	0.200s	O	0~10000
A5.03	ASR1 output filter	0~8(Corresponding to 0~2 ⁸ /10ms)	1	0	O	0~8
A5.04	ASR2-P	0.1~200.0	0.1	20.0	O	1~2000
A5.05	ASR2-I	0.000~10.000S	0.001s	0.200s	O	0~10000
A5.06	ASR2 output filter	0~8 (Corresponding to 0~2 ⁸ /12.5ms)	1	0	O	0~8
A5.07	ASR1/2 switching Frequency	0.0%~100.0%	0.1	10.0%	O	0~1000
A5.08	Maximum speed limit for forward running when torque control	0.0%~+100.0%	0.1%	100.0%	O	0~1000
A5.09	Maximum speed limit for reverse running when torque control	0.0%~+100.0%	0.1%	100.0%	O	0~1000
A5.10	Driving torque limit	0.0%~+300.0%	0.1%	180.0%	O	0~3000
A5.11	Braking torque limit	0.0%~+300.0%	0.1%	180.0%	O	0~3000
A5.12	Reference torque selection	0:Digital setting 1:A11 2:A12 3:A13 4:Pulse DI terminal setting	1	0	X	0~4
A5.13	Digital reference torque	-300.0%~+300.0%	0.1%	0.0%	O	0~6000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
A5.14	Speed→Torque switching point	0%~+300.0% Initial torque	0.1%	100.0%	X	0~3000
A5.15	Speed/torque switching delay time	0~1000mS	1	0	X	0~1000
A5.16	Reference torque filtering time	0~65535mS	1ms	0	X	0~65535
A5.17	ACR-P	1~5000	1	1000	O	1~5000
A5.18	ACR-I	0.5~100.0mS	0.1	8.0	O	5~1000
Group A6.Control terminals parameters						
A6.00	Input terminal X1 function selection	0:No function 1:Forward 2:Reverse 3:Forward jog operation 4:Reverse jog operation 5:3-wire operation control 6:External RESET signal input 7:External fault signal input 8:External interrupt signal input 9:Drive operation prohibit 10:External stop command 11:DC injection braking command 12:Coast to stop 13:Frequency ramp up (UP) 14:Frequency ramp down (DN) 15:Switch to panel control 16:Switch to terminal control 17:Switch to communication control mode 18:Main reference frequency via AI1 19:Main reference frequency via AI2 20:Main reference frequency via AI3 21:Main reference frequency via DI 22:Auxiliary reference frequency invalid 23:Auxiliary reference frequency via AI1 (Reserved) 24:Auxiliary reference frequency via AI2 (Reserved) 25:Auxiliary reference frequency via AI3 (Reserved) 26:Auxiliary reference frequency via	1	1	X	0~100

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		DI (Reserved) 27:Preset frequency 1 28:Preset frequency 2 29:Preset frequency 3 30:Preset frequency 4 31:Acc/Dec time 1 32:Acc/Dec time 2 33:Multiple close-loop reference selection 1 34:Multiple close-loop reference selection 2 35:Multiple close-loop reference selection 3 36:Multiple close-loop reference selection 4 37:Forward prohibit 38:Reverse prohibit 39:Acc/Dec prohibit 40:Process close-loop prohibit 41:Speed and torque control switching terminal 42:Main frequency switch to digital setting 43:PLC pause 44:PLC prohibit 45:PLC stop memory clear 46:Swing input 47:Swing reset Others.Reserved				
A6.01	Input terminal X2 function selection	The same as A6.00	1	2	X	0~100
A6.02	Input terminal X3 function selection	The same as A6.00	1	6	X	0~100
A6.03	Input terminal X4 function selection	The same as A6.00	1	27	X	0~100
A6.04	Input terminal X5 function selection	The same as A6.00	1	28	X	0~100

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
A6.05	Input terminal X6 function selection	The same as A6.00	1	29	X	0~100
A6.06	Input terminal X7 function selection	The same as A6.00	1	0	X	0~100
A6.07	Reserved	-	1	0	X	0~100
A6.08	Terminal filter	0~500ms	1	10	O	0~500
A6.09	Terminal control mode selection	0: 2-wire operating mode 1 1: 2-wire operating mode 2 2: 3-wire operating mode 1 3: 3-wire operation mode 2 4: 2-wires operation mode 3	1	0	X	0~3
A6.10	Max. frequency of input pulse	0.1~100.0(Max.100k) Only valid when X7 is defined as pulse input.	0.1k Hz	10.0	O	1~1000
A6.11	Center point of pulse setting selection	0: No center point 1: Center point mode 1, the center point is (A6.10)/2. It is positive when frequency less than center point. 2: Center point mode 2. The center point is (A6.10)/2. It is negative when frequency less than center point.	1	0	O	0~1
A6.12	Filter of pulse input	0.00~10.00s	0.01s	0.05	O	0~1000
A6.13	Input terminal's positive and negative logic	Binary setting 0: Positive logic. Terminal Xi is enabled if it is connected to corresponding common terminal, and disabled if it is disconnected. 1: Negative logic. Terminal Xi is disabled if it is connected to corresponding common terminal, and enabled if it is disconnected. Unit's place of LED: BIT0~BIT3. X1~X4 Ten's place of LED: BIT0~BIT2. X5~X8	1	00	O	0~FFH
A6.14	Bi-direction pen-collector	0: Running signal (RUN) 1: Frequency arriving signal (FAR)	1	0	X	0~20

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	output terminal Y1	2:Frequency detection threshold (FDT1) 3:Frequency detection threshold (FDT2) 4:Overload detection signal(OL) 5:Low voltage signal(LU) 6:External fault stop signal(EXT) 7:Frequency high limit(FHL) 8:Frequency low limit(FLL) 9:Zero-speed running 10:Terminal X1(Reserved) 11:Terminal X2(Reserved) 12:PLC running step complete signal 13:PLC running cycle complete signal 14:Limit of swing frequency upper/lower limit 15:Drive ready (RDY) 16:Drive fault 17:Switching signal of host 18:Reserved 19:Torque limiting 20:Drive running forward/reverse Others.Reserved				
A6.15	Open circuit collector output Y2 function	The same as A6.14	1	1	X	0~50
A6.16	Output functions of relay R1	The same as A6.14	1	16	X	0~50
A6.17	Output functions of relay R2	The same as A6.14	1	15	X	0~50
A6.18	Delay of relay R1	0.1~10.0s	0.1s	0.1	X	1~100
A6.19	Delay of relay R2	0.1~10.0s	0.1s	0.1	O	1~100
A6.20	Output terminal's positive and negative logic	Binary setting: 0:Terminal is enabled if it is connected to Corresponding common terminal, and disabled if it is disconnected. 1:Terminal is disabled if it is connected to corresponding common	1	0	O	0~1FH

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		terminal, and enabled is it is disconnected. Unit's place of LED:BIT0~BIT3.Y1、Y2R1、R2 Ten's place of LED:BIT0.D0				
A6.21	Frequency arriving signal (FAR)	0.00~300.00Hz	0.01 Hz	2.50Hz	O	0~30000
A6.22	FDT1 level	0.00~300.00Hz	0.01 Hz	50.00Hz	O	0~30000
A6.23	FDT1 lag	0.00~300.00Hz	0.01 Hz	1.00Hz	O	0~30000
A6.24	FDT2 level	0.00~300.00Hz	0.01 Hz	25.00Hz	O	0~30000
A6.25	FDT2 lag	0.00~300.00Hz	0.01 Hz	1.00Hz	O	0~30000
A6.26	Virtual terminal setting	Binary setting 0:Disable; 1:Enable Unit's place of LED:BIT0~BIT3.X1~X4 Ten's place of LED:BIT0~BIT2.X5~X8	1	00	O	0~FFH
A6.27	Y2 terminal output	0~50:Y2 is used as Y terminal output. 51~88:Y2 function 0:Running signal(RUN) 1:frequency arriving signal(FAR) 2:frequency detection threshold (FDT1) 3:frequency detection threshold (FDT2) 4:overload signal(OL) 5:low voltage signal(LU) 6:external fault signal(EXT) 7:frequency high limit(FHL) 8:frequency low limit(FLL) 9:zero-speed running 10:Terminal X1(Reserved) 11:Terminal X2(Reserved) 12:PLC running step complete signal 13:PLC running cycle complete	1	0	O	0~88

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		signal 14:Limit of swing frequency upper/lower limit 15:Drive ready (RDY) 16:Drive fault 17:Switching signal of host 18:Reserved 19:Torque limiting 20:Drive running forward/reverse 21~50:Reserved 51:Output frequency (0~ Max. output frequency) 52:Preset frequency (0~ Max. output frequency) 53:Preset frequency (After Acc/Dec)(0~ Max. output frequency) 54:Motor speed(0~ Max. speed) 55:Output current(0~2*Iei) 56:Output current(0~2*Iem) 57:Output torque(0~3*Tem) 58:Output power(0~2*Pe) 59:Output voltage(0~1.2*Ve) 60:Bus voltage(0~800V) 61:AI1 62:AI2 63:AI3 64:DI 65:Percentage of host(0~4095) 66~88:Reserved				
A6.28	Max. output pulse frequency	0.1~100.0(Max.100.0k)	0.1k Hz	10.0	O	1~1000
A6.29	Center point of pulse output selection	0:No center point 1:Center point mode 1,the center point is(A6.26)/2.It is positive when frequency less than center point. 2:Center point mode 2.The center point is (A6.26)/2.It is negative when frequency less then center point.	1	0	O	0~2
A6.30	Functions of terminal AO1	0:No function 1:Output frequency (0~ Max. output frequency) 2:Preset frequency	1	0	O	0~36

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		(0~ Max. output frequency) 3:Preset frequency(After Acc/Dec)(0~ Max. output frequency) 4:Motor speed(0~ Max. speed) 5:Output current(0~2*Iei) 6:Output current(0~2*Iem) 7:Output torque(0~3*Tem) 8:Output power(0~2*Pe) 9:Output voltage(0~1.2*Ve) 10:Bus voltage(0~800V) 11:AI1 12:AI2 13:AI3 14:DI 15:Percentage of host(0~4095) 16~36:Reserved				
A6.31	Functions of terminal A02	Same as above.	1	0	O	0~36
A6.32	Gain of A01	0.0%~200.0%	0.1%	100.0%	O	0~2000
A6.33	Zero offset calibration of A01	-100.0%~100.0%	0.1%	0.0	O	0~2000
A6.34	Gain of A02	0.0%~200.0%	0.1%	100.0%	O	0~2000
A6.35	Zero offset calibration of A02	-100.0%~100.0%	0.1%	0.0	O	0~2000
A6.36	AI1 filter	0.01~10.00s	0.01s	0.05	O	1~1000
A6.37	AI2 filter	0.01~10.00s	0.01s	0.05	O	1~1000
A6.38	AI3 filter	0.01~10.00s	0.01s	0.05	O	1~1000
A6.39	AI Analog offset calibration	0~1	1	0	O	0~1
A6.40	AI1 gain	0.00%~200%	0.01 %	100%	O	1~20000
A6.41	AI2 gain	0.00%~200%	0.01 %	100%	O	1~20000
A6.42	AI3 gain	0.00%~200%	0.01 %	100%	O	1~20000
A6.43~ A6.49	Reserved	-	1	0	O	0~65535
A6.50	Multi speed terminal	0~500	1	300	O	0~65535

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	switching time					
A6.51~ A6.60	Reserved	-	1	0	O	0~65535
Group A7.PG Parameters						
A7.00	PG type	0:ABZ incremental type 1:UVW incremental type 2:Cosine type 3:Reserved.	1	0	O	0~3
A7.01	Number of pulses per revolution of PG	1~10000	1	2048	O	1~10000
A7.02	Direction of PG	0:A phase lead B phase 1:B phase lead A phase	1	0	X	0~1
A7.03	Encoder signal filter number	Unit's place of LED:0~9 high-speed filter Ten's place of LED:0~9 low-speed filter	1	30H	O	0~99H
A7.04	PG disconnection detecting time	0.0:Disable 0.1~10.0	0.1s	0.0	O	0~100
A7.05	Reduction rate of motor and encoder	0.001~65.535	0.001	1	O	0~65535
Group A8.Fault parameters						
A8.00	Protective action of relay	Unit's place of LED:Action selection for under-voltage fault indication. 0:Disable; 1:Enable Ten's place of LED:Action selection for auto reset interval fault indication. 0:Disable1:Enable Hundred's place of LED:Selection for fault locked function. 0:Disable , 1:Enable Thousand's place of LED:Reserved	1	0000	X	0~1111H
A8.01	Fault masking selection 1	Unit's place of LED: Communication fault masking selection Ten's place of LED: Relay fault masking selection Hundred's place of LED: EEPROM fault masking selection Thousand's place of LED:Reserved 0:Disable.Stop when fault happen	1	2000	X	0~2222H

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		1:Disable.Continue operating when fault happen 2:Enable				
A8.02	Fault masking selection 2	Unit's place of LED: Open phase fault masking selection for input Ten's place of LED: Open phase fault masking selection for output Hundred's place of LED: fault masking selection for over limit of deviation of speed Thousand's place of LED: fault masking selection for module's heatsink overheat 0:Disable.Stop when fault happen 1:Disable.Continue operating when fault happen 2:Enable	1	00	X	0~22H
A8.03	Motor overload protection mode selection	0:Disabled 1:Common mode (with low speed compensation) 2:Variable frequency motor (without low speed compensation)	1	1	X	0~2
A8.04	Auto reset times	0:Nofunction,1~100:Auto reset times Note:The IGBT protection (E010) and external equipment fault (E015) cannot be reset automatically.	1	0	X	0~100
A8.05	Reset interval	2.0~20.0s/time	0.1s	5.0s	X	20~200
A8.06	Fault locking function selection.	0:Disable. 1:Enable.	1	0	X	0~1
Group b0.Motor parameters						
b0.00	Rated power	0.4~999.9KW	0.1	0	X	4~9999
b0.01	Rated voltage	0~ rated voltage of drive	1	0	X	0~6000
b0.02	Rated current	0.1~999.9A	0.1A	Dependent on drive's model	X	1~9999
b0.03	Rated frequency	1.00~1000.00Hz	0.01 Hz	Dependent on drive's model	X	100~30000
b0.04	Number of polarities of motor	2~24	1	4	X	2~24
b0.05	Rated speed	0~60000RPM	1 RPM	1440RPM	X	0~60000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
b0.06	Resistance of stator %R1	0.00%~50.00%	0.01 %	Dependent on drive's model	X	0~5000
b0.07	Leakage inductance %X1	0.00%~50.00%	0.01 %	Dependent on drive's model	X	0~5000
b0.08	Resistance of rotor %R2	0.00%~50.00%	0.01 %	Dependent on drive's model	X	0~5000
b0.09	Exciting inductance %Xm	0.0%~2000.0%	0.1%	Dependent on drive's model	X	0~20000
b0.10	Current without load I0	0.1~999.9A	0.1A	Dependent on drive's model	X	1~9999
b0.11	Auto-tuning	0:Auto-tuning is disabled 1:Stationary auto-tuning (Start auto-tuning to a standstill motor) 2:Rotating auto-tuning 3:Reserved.	1	0	X	0~3
b0.12	Motor's overload Protection coefficient	20.0%~110.0%	0.1%	100.0%	X	200~1100
b0.13	Motor's overload protection time	0~6000.0	0.1s	0.0s	X	0~60000
b0.14	Oscillation inhibition coefficient	0~255	1	10	O	0~255
Group b1.V/F parameters						
b1.00	V/F curve setting	0:V/F curve is defined by user 1:2-order curve 2:1.7-order curve 3:1.2-order curve	1	0	X	0~3
b1.01	V/F frequency value F3	b1.03~A0.08	0.01 Hz	0.00Hz	X	0~30000
b1.02	V/F voltage value V3	b1.04~100.0%	0.1%	0.0%	X	0~1000
b1.03	V/F frequency value F2	b1.05 ~b1.01	0.01 Hz	0.00Hz	X	0~30000
b1.04	V/F voltage value V2	b1.06~b1.02	0.1%	0.0%	X	0~1000
b1.05	V/F frequency value F1	0.00~b1.03	0.01 Hz	0.00Hz	X	0~30000
b1.06	V/F voltage value V1	0~b1.04	0.1%	0.0%	X	0~1000
b1.07	Cut-off point used for manual	0.0%~50.0% (Corresponding to A0.12)	0.1%	10.0%	O	0~500

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	torque boost					
b1.08	AVR function	0:Disable 1:Enable all the time 2:Disabled in Dec process	1	2	X	0~2
b1.09	VF Output Voltage Selection	0:None 1:AI1 2:AI2 3:Reserved	1	0	X	0~3
b1.10	VF Output Voltage Offset Selection	0:None 1:AI1 2:AI2 3:Reserved	1	0	X	0~3
Group b2.Enhanced parameters						
b2.00	Carrier wave frequency	2.0~15.0KHz	0.1	8.0	O	20~150
b2.01	Auto adjusting of CWF	0:Disable 1:Enable	1	1	O	0~1
b2.02	Voltage adjustment selection	Unit's place of LED: Over-voltage at stall Selection 0:Disable (When install brake resistor) 1:Enable Ten's place of LED:Not stop when instantaneous stop function selection 0:Disable 1:Enable (Low voltage compensation) Hundred's place of LED:Overmodulation selection 0:Disable1:Enable	1	001	X	0~111H
b2.03	Overvoltage point atstall	120.0%~150.0%Udce	0.1%	140.0%	X	1200~1500
b2.04	Droop control	0.00~10.00Hz	0.00	0.00Hz	O	0~1000
b2.05	Auto current limiting threshold	20.0%~200.0%Ie	0.1%	150.0%	X	200~2000
b2.06	Frequency decrease rate when current limiting	0.00~99.99Hz/s	0.01 Hz/s	1.00 Hz/s	O	0~9999
b2.07	Auto current limitingselection	0:Invalid at constant speed 1:Valid at constant speed	1	1	X	0~1

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		Note: It is valid all the time at Acc/Dec				
b2.08	Gain of Slip compensation	0.0~300.0%	0.1%	100.0%	O	0~3000
b2.09	Slip compensation limit	0.0~250.0%	0.1%	200.0%	O	0~2500
b2.10	Slip compensation time constant	0.1~25.0s	0.1s	2.0s	O	0~250
b2.11	auto energy-saving function	0:Disable 1:Enable	1	0	X	0~1
b2.12	Frequency decrease rate at voltage compensation	0.00~99.99Hz/s	0.01 Hz/s	10.00 Hz/s	O	0~9999
b2.13	Zero-frequency Operation threshold	0.00~300.00Hz	0.01 Hz	0.50Hz	O	0~30000
b2.14	Zero-frequency Hysteresis (Reserved)	0.00~300.00Hz	0.01 Hz	0.00Hz	O	0~30000
b2.15	Fan control	0:Auto operation mode 1:Fan operate continuously when power is on 2:The start and stop of the fan is the same as the start and stop of the frequency converter Note:Keep running for 3 minutes after stop in mode 1.	1	0	X	0~2
Group b3.Communication parameter						
b3.00	Communication configuration	Unit's place of LED.Baud rate selection 0:4800BPS 1:9600BPS 2:19200BPS 3:38400BPS 4:115200BPS 5:125000BPS Ten's place of LED.Data format 0: 1-8-2-N format,RTU 1: 1-8-1-E format,RTU	1	001	X	0~155H

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		2: 1-8-1-O format, RTU 3: 1-7-2-N format, ASCII 4: 1-7-1-E format, ASCII 5: 1-7-1-O format, ASCII Hundred's place of LED wiring mode 0: Direct connection via cable (RS232/485) 1: MODEM (RS232) Thousand's place of LED: Storage mode for writing function 0: Save EEPROM 1: Save RAM				
b3.01	Local address	0~247, 0 is the broadcasting address	1	5	X	0~247
b3.02	Time threshold for judging the communication status	0.0~1000.0S	0.1	0.0s	X	0~10000
b3.03	Delay for responding to control PC	0~1000mS	1	5ms	X	0~1000
b3.06~b3.17	Input parameter mapping 1~12	Input parameter mapping 1~12	1	0	O	0~1000
b3.18~b3.29	Input parameter mapping 1~12	Input parameter mapping 1~12	1	0	O	0~1000
Group b4. Keyboard parameters						
b4.00	Key-lock function selection	0: The keys on the operation panel are not locked, and all the keys are usable. 1: The keys on the operation panel are locked, and all the keys are unusable. 2: All the keys except for the multi-functional key are unusable. 3: All the keys except for the SHIFT key are unusable. 4: All the keys except for the RUN AND STOP keys are unusable.	1	0	O	0~4
b4.01	Multi-function key definition	0: Jog function 1: Coast-to-stop 2: Stop in shortest time 3: Switch of input method of operating command 4: Switch forward/reverse. (Save after	1	0	O	0~3

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		power failure) 5:Switch forward/reverse.(Not save after power failure)				
b4.02	Parameter protection	0:All parameters are allowed modifying; 1:Only A0.03 and b4.02 can be modified; 2:Only b4.02 can be modified.	1	1	O	0~2
b4.03	Parameter initialization	0:parameter adjustable 1:Clear fault information in memory 2:Restore to factory settings	1	0	X	0~2
b4.04	Parameter copy	0:No action 1:parameters upload 2:parameters download 3:parameters download (except the parameters related to drive type) Note.Not to upload/download drive's parameters.	1	0	X	0~3
b4.05	Display parameters selection	Binary setting 0: No display; 1:Display Unit's place of LED: BIT0:Output frequency(Not display when VFD stop, Display grid frequency input in energy feedback mode) BIT1:Setting frequency(Flick, Not display in energy feedback mode) BIT2:Output current(Not display when VFD stop, Display grid current input in energy feedback mode) BIT3:Output voltage (Not display when VFD stop, Display grid voltage input in energy feedback mode) Ten's place of LED: BIT0:AI1 BIT1:AI2 BIT2:AI3 BIT3:DI(Terminal status) Hundred's place of LED: BIT0:Output power(Not display when	1	1007H	O	0~FFFFH

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		VFD stop, not display in energy feedback mode) BIT1:Output torque(Not display when VFD stop, not display in energy feedback mode) BIT2:Analog close-loop feedback(%)(Not display in energy feedback mode) BIT3:Analog close-loop setting(%)(Flick, Not display in energy feedback mode) Thousand's place of LED: BIT0:Bus voltage BIT1:Speed(R/MIN,Not display in energy feedback mode) BIT2:Setting speed(R/MIN,Flick, Not display in energy feedback mode) BIT3:Line speed Note:If all the BITs are 0,the drive will display setting frequency at stop,display output frequency at operating and display bus voltage at energy feedback mode				
b4.06	Operating frequency ratio	0.00~99.99	0.01	1.00	O	0~9999
b4.07	Operating speed ratio	0.000~30.000	0.001	1.000	O	0~30000
b4.08~b4.15	Reserved	-	-	-	-	0~65535
Group C0.Multi-section parameters						
C0.00	Preset frequency 1	A0.12(Lower limit of frequency)~A0.11(upper limit of frequency)	0.01 Hz	5.00Hz	O	0~30000
C0.01	Preset frequency 2	Same as above	0.01 Hz	10.00Hz	O	0~30000
C0.02	Preset frequency 3	Same as above	0.01 Hz	15.00Hz	O	0~30000
C0.03	Preset frequency 4	Same as above	0.01 Hz	20.00Hz	O	0~30000
C0.04	Preset frequency 5	Same as above	0.01 Hz	25.00Hz	O	0~30000
C0.05	Preset frequency	Same as above	0.01	30.00Hz	O	0~30000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	6		Hz			
C0.06	Preset frequency 7	Same as above	0.01 Hz	35.00Hz	O	0~30000
C0.07	Preset frequency 8	Same as above	0.01 Hz	40.00Hz	O	0~30000
C0.08	Preset frequency 9	Same as above	0.01 Hz	45.00Hz	O	0~30000
C0.09	Preset frequency10	Same as above	0.01 Hz	50.00Hz	O	0~30000
C0.10	Preset frequency11	Same as above	0.01 Hz	10.00Hz	O	0~30000
C0.11	Preset frequency12	Same as above	0.01 Hz	20.00Hz	O	0~30000
C0.12	Preset frequency13	Same as above	0.01 Hz	30.00Hz	O	0~30000
C0.13	Preset frequency14	Same as above	0.01 Hz	40.00Hz	O	0~30000
C0.14	Preset frequency15	Same as above	0.01 Hz	50.00Hz	O	0~30000
Group C1.Process PID parameters						
C1.00	Close-loop control function	0:Disable 1:Enable	1	0	X	0~1
C1.01	Reference channel selection	0:Digital input 1:AI1; 2:AI2; 3:AI3;	1	1	O	0~3
C1.02	Feedback channel selection	0:AI1; 1:AI2; 2:AI1+AI2; 3:AI1-AI2; 4:MIN(AI1, AI2); 5:MAX(AI1, AI2); 6:DI	1	1	O	0~6
C1.03	Digital setting of reference	-10.00V~10.00V	0.01	0.00	O	0~2000
C1.04	Close-loop speed reference	0~39000rpm	1rpm	0	O	0~39000
C1.05	Min reference	0.0%~(C1.07) (Ratio of Min reference to base value of 10V/20mA))	0.1%	0.0%	O	0~1000
C1.06	Feedback value	0.0~100.0%	0.1%	0.0%	O	0~1000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	corresponding to the Min reference	(Ratio of Min reference to base value of 10V/20mA)				
C1.07	Max reference	(A01.05)~100.0% (Ratio of Max reference to base value of 10V/20mA)	0.1%	100.0%	O	0~1000
C1.08	Feedback value corresponding to the Max reference	0.0~100% (Ratio of Max reference to base value of 10V/20mA)	0.1%	100.0%	O	0~1000
C1.09	Proportional gain KP	0.000~10.000	0.001	2.000	O	0~10000
C1.10	Integral gain Ki	0.000~10.000	0.001	0.100	O	0~10000
C1.11	Differential gain Kd	0.000~10.000	0.001	0.100	O	0~10000
C1.12	Sampling cycle T	0.01~50.00s	0.01s	0.50s	O	1~5000
C1.13	Output filter	0.01~10.00s	0.01s	0.05	O	1~1000
C1.14	Error limit	0.0~20.0%(Corresponding to close-loop reference)	0.1%	2.0%	O	0~200
C1.15	Close-loop regulation characteristic	0:Positive 1:Negative	1	0	X	0~1
C1.16	Integral regulation selection	0:Stop integral regulation when the frequency reaches the upper and lower limits 1:Continue the integral regulation when the frequency reaches the upper and lower limits	1	0	X	0~1
C1.17	Preset close-loop frequency	0.00~300.00Hz	0.01 Hz	0.00Hz	O	0~30000
C1.18	Holding time of preset close-loop frequency	0.0~3600.0S	0.1S	0.0S	X	0~36000
C1.19	Preset close-loop reference 1	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.20	Preset close-loop reference 2	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.21	Preset close-loop reference 3	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.22	Preset close-loop reference 4	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.23	Preset close-loop	-10.00V ~10.00V	0.01	0.00V	O	0~2000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	reference 5		V			
C1.24	Preset close-loop reference 6	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.25	Preset close-loop reference 7	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.26	Preset close-loop reference 8	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.27	Preset close-loop reference 9	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.28	Preset close-loop reference 10	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.29	Preset close-loop reference 11	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.30	Preset close-loop reference 12	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.31	Preset close-loop reference 13	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.32	Preset close-loop reference 14	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.33	Preset close-loop reference 15	-10.00V ~10.00V	0.01 V	0.00V	O	0~2000
C1.34	Close-loop output reversal selection	0:The close-loop output is negative,the drive will operate at zero frequency. 1:The close-loop output is negative,and the drive operate reverse.	1	0	O	0~1
C1.35	Sleep function selection	0:Disable 1:Enable.	1	0	O	0~1
C1.36	Sleep level	0.0~100.0%	0.1%	50.0%	O	0~1000
C1.37	Sleep latency	0.0~6000.0s	0.1s	30.0s	O	0~6000
C1.38	Wake-up level	0.0~100.0%	0.1%	50.0%	O	0~1000
C2.Simple PLC						
C2.00	Simple PLC operationmode selector	Unit's place of LED: PLC operation mode 0:No function 1:Stop after single cycle 2:Keep final states after single cycle 3:Continuous cycle Ten's place of LED:Start mode 0:Start from first step 1:Start from the step beforestop	1	0000	X	0~1123H

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		(or alarm). 2:Start from the step and frequency before stop(or alarm) Hundred's place of LED: Storage after power off 0:Disable 1:Save the segment frequency when power off Thousand's place of LED:Time unit selector for each step 0:Second 1:Minute				
C2.01	Step 1 setting	Unit's of LED: 0:Multiple frequency N (N.corresponding to current step) 1:Defined by A0.02 2:Multiple closed-loop reference N(N.corresponding to current step) 3:Defined by C1.01 Ten's place of LED: 0:Forward 1:Reverse 2:Defined by operation command Hundred's place of LED: 0:Acc/Dec time 1 1:Acc/Dec time 2 2:Acc/Dec time 3 3:Acc/Dec time 4	1	000	O	0~323H
C2.02	Step 1 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.03	Step 2 setting	Same as C2.01	1	000	O	0~323H
C2.04	Step 2 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.05	Step 3 setting	Same as C2.01	1	000	O	0~323H
C2.06	Step 3 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.07	Step 4setting	Same as C2.01	1	000	O	0~323H
C2.08	Step 4 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.09	Step 5 setting	Same as C2.01	1	000	O	0~323H
C2.10	Step 5 operating time	0.0~6500.0	0.1	20.0	O	0~65000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
C2.11	Step 6 setting	Same as C2.01	1	000	O	0~323H
C2.12	Step 6 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.13	Step 7 setting	Same as C2.01	1	000	O	0~323H
C2.14	Step 7 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.15	Step 8 setting	Same as C2.01	1	000	O	0~323H
C2.16	Step 8 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.17	Step 9 setting	Same as C2.01	1	000	O	0~323H
C2.18	Step 9 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.19	Step 10 setting	Same as C2.01	1	000	O	0~323H
C2.20	Step 10 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.21	Step 11 setting	Same as C2.01	1	000	O	0~323H
C2.22	Step 11 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.23	Step 12 setting	Same as C2.01	1	000	O	0~323H
C2.24	Step 12 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.25	Step 13 setting	Same as C2.01	1	000	O	0~323H
C2.26	Step 13 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.27	Step 14 setting	Same as C2.01	1	000	O	0~323H
C2.28	Step 14 operating time	0.0~6500.0	0.1	20.0	O	0~65000
C2.29	Step 15 setting	Same as C2.01	1	000	O	0~323H
C2.30	Step 15 operating time	0.0~6500.0	0.1	20.0	O	0~65000
Group C3.Reserved						
C3.00~C3.07	Reserved	-	-	-	-	-
Group d0.Status display						
d0.00	Main reference frequency	-300.00~300.00Hz	0.01 Hz	0.00	*	0~60000
d0.01	Auxiliary reference frequency	-300.00~300.00Hz	0.01 Hz	0.00	*	0~60000
d0.02	Preset frequency	-300.00~300.00Hz	0.01 Hz	0.00	*	0~60000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
d0.03	Frequency after Acc/Dec	-300.00~300.00Hz	0.01 Hz	0.00	*	0~60000
d0.04	Output frequency	-300.00~300.00Hz	0.01 Hz	0.00	*	0~60000
d0.05	Output voltage	0~60000V	1V	0	*	0~60000
d0.06	Output current	0.0~3Ie	0.1A	0.0	*	0~65535
d0.07	Torque current	-300.0~+300.0%	0.1%	0.0%	*	0~6000
d0.08	Magnetic flux current	0~+100.0%	0.1%	0.0%	*	0~1000
d0.09	Motor power	0.0~200.0%(Corresponding to the motor's rated power)	0.1%	0.0%	*	0~2000
d0.10	Motor estimated frequency	-300.00~300.00Hz	0.01	0.00	*	0~60000
d0.11	Motor actual frequency	-300.00~300.00Hz	0.01	0.00	*	0~60000
d0.12	Bus voltage	0~800V	1V	0	*	0~800
d0.13	Drive operation status	0~FFFH bit0:Run/Stop bit1:Reverse/Forward bit2:Operating at zero frequency bit3:Accelerating bit4:Decelerating bit5:Operating at constant speed bit6:Pre-commutation bit7:Tuning bit8:Over-current limiting bit9:DC over-voltage limiting bit10:Torque limiting bit11:Speed limiting bit12:Drive fault bit13:Speed control bit14:Torque control bit15:Position control(Reserved)	1	0	*	0~FFFFH
d0.14	Input terminals status	0~FFH, 0:OFF; 1:ON	1	00	*	0~FFH
d0.15	Output terminals status	0~1FH, 0:OFF; 1:ON	1	0	*	0~1FH
d0.16	AI1 input	-10.00~10.00V	0.01 V	0.00	*	0~2000
d0.17	AI2 input	-10.00~10.00V	0.01 V	0.00	*	0~2000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
d0.18	AI3 input	-10.00~10.00V	0.01 V	0.00	*	0~2000
d0.19	Percentage of AI1 after regulation	-100.00%~110.00%	0.01 %	0.00	*	0~20000
d0.20	Percentage of AI2 after regulation	-100.00%~110.00%	0.01 %	0.00	*	0~20000
d0.21	Percentage of AI3 after regulation	-100.00%~110.00%	0.01 %	0.00	*	0~20000
d0.22	AO1 output	0.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~1000
d0.23	AO2 output	0.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~1000
d0.24	Process close-loop reference	-100.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~2000
d0.25	Process close-loop feedback	-100.0~100.0% (Ratio of the full range)	0.1%	0.05%	*	0~2000
d0.26	Process close-loop error	-100.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~2000
d0.27	Process close-loop	-100.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~2000
d0.28	Temperature of heatsink 1	0.0~150.0℃	0.1℃	0.0	*	0~1500
d0.29	Temperature of heatsink 2	0.0~150.0℃	0.1℃	0.0	*	0~1500
d0.30	Total conduction time	0~65535 hours	1 hours	0	*	0~65535
d0.31	Total operating time	0~65535 hours	1 hours	0	*	0~65535
d0.32	Total fan's operating time	0~ 65535 hours	1 hours	0	*	0~65535
d0.33	ASR controller output	-300.0~300.0% (Corresponding to drive's rated torque)	0.1%	0.0%	*	0~6000
d0.34	Reference torque	-300.0~300.0%(Corresponding to drive's rated torque)	0.1%	0.0%	*	0~6000
d0.35	Zero offset of AI1	0~65535	1	0	*	0~65535
d0.36	Zero offset of AI2	0~65535	1	0	*	0~65535

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
d0.37	Zero offset of AI3	0~65535	1	0	*	0~65535
d0.38~d0.45	Reserved	-	-	-	-	-
Group d1.Fault record						
d1.00	Fault record 1	0:No fault records 1:Hardware or software over current during acceleration. 2:Hardware or software over current during deceleration. 3:Hardware or software over current during running in constant speed. 4:Hardware or software over voltage during acceleration. 5:Hardware or software over voltage during deceleration. 6:Hardware or software over voltage during running in constant speed. 7:Input voltage is too high 8:Input phase loss (E008) 9:Output phase failure (E009) 10:18.5kw and below models.output current is detected too large; 22kw and above models.IGBT module is detected voltage drop too large. (IGBT module protection) 11:IGBT module's heatsink overheat. 12:Rectifier's heatsink overheat. 13:Running current is larger than VFD rated current for long time. 14:Running current is larger than motor rated current for long time. 15: External device fault. 16:EEPROM R/W fault (E016) 17:VFD can not get communication with host. 18:Power board/drive board/contactor damage causes contactor abnormal. 19:Hall/drive board abnormal causes current detective circuit fault. 20:Reserved (E020)	1	0	*	0~50

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
		21~22:Reserved 23:Parameter copy error (E023) 24:Auto tuning fault in vector control.(E024) 25:Encoder signal fault in lose-loop control (E025) 26:VFD running current is detected smaller than set value of load lost (E026) 27:Brake unit failure (E027) 28~32:Reserved 33:VFD output is short circuit to earth (E033) 34:VFD running speed and encoder detected speed deviation exceeds allowed value. (E034) 35~39:Reserved 40:Extension card and control board SPIcommunication fault (E040) Note: 1:E007 is not detected if the the model is 18.5G/22G or blow. 2:Fault E010 can't be reset untildelaying 10 seconds. 3:The over-current fault can't be reset until delaying 6 seconds. 4:The keypad will display fault AXXX whenfault warning appears.(For example,when contactor failure,the keypad will display E018 if it is action protection,and the keypad will display A018 if it is warning and continue to run).				
d1.01	Bus voltageofthelates tfailure	0~999V	1V	0V	*	0~999
d1.02	Actual current of the latest failure	0.0~999.9A	0.1A	0.0A	*	0~9999
d1.03	Operation frequency of the	0.00Hz~300.00Hz	0.01 Hz	0.00Hz	*	0~30000

Function code	Name	Descriptions	Unit	Factory setting	Modif.	Setting range
	latest failure					
d1.04	Operation status of the latest failure	0~FFFFH	1	0000	*	0~FFFFH
d1.05	Fault record 2	0~55	1	0	*	0~50
d1.06	Fault record 3	0~55	1	0	*	0~50
Group d2.Product Identity Parameters						
d2.00	Serial number	0~FFFF	1	100	*	0~65535
d2.01	Software version number	0~65535	1	100	*	0~65535
d2.02	Custom-made version number	0~65535	1	0	*	0~65535
d2.03	Load type selection	0:Heavy load G; 1: Light load L; 2:Serging type load B; 3: 2-phase type load; 4~9:Reserved	1	0	-	0~9
d2.04	Rated capacity	Output power ,0~999.9KVA (Dependent on drive's model)	0.1 KVA	Factory setting	*	0~9999
d2.05	Rated voltage	0~60000V (Dependent on drive's model)	1V	Factory setting	*	0~999
d2.06	Per unit rated current	0~999.9A (Dependent on drive's model)	0.1A	Factory setting	*	0~9999
d2.07	Software date	0~65535	1	0	*	0~65535
Group U0.Factory parameters						
U0.00	Factory password	**** Note:Other parameters in this group can't display until entering the right password.	1	Factory setting	—	0~FFFF

Kinco[®] Automation

[上海]：上海市浦东新区张江高科技园区秋月路26号3幢 (201210)

电话：021-6879 8588 传真：021-6879 7688

[深圳]：深圳市南山区高新科技园北区朗山一路6号1栋 (518057)

电话：0755-2658 5555 传真：0755-2661 6372

Shanghai Kinco Automation Co.,Ltd.

Add: Building No.3, Qiuyue Road, Zhangjiang Hi-Tech Park,
Pudong District, Shanghai, China. 201210

Tel: +86-21-6879 8588

Fax: +86-21-6879 7688

Kinco Electric (Shenzhen) Ltd.

Add: Building 1, No.6 Langshan 1st Road, Hi-tech Park North,
Nanshan District, Shenzhen, China. 518057

Tel: +86-755-2658 5555

Fax: +86-755-2661 6372

Email: sales@kinco.cn <http://www.kinco.cn>



用户使用手册



USER'S MANUAL

All trademarks and logos in this brochure are property of and registered by their respective owners.

©上海步科自动化股份有限公司，版权所有。