



HPPD1490018-00B
Date 2025-03-26
CN 安装说明
EN Instruction Sheet

1. 安全注意事项 (Safety precautions)

本说明书涉及产品为工业产品，并且均为开放型外壳设计。要求用户使用时，务必将产品安装于具有防尘、防潮以及免于电击/冲击等意外的控制柜内，并且需要设置保护措施以防止非维护人员不当操作或意外导致设备故障或损坏，造成不可避免的人员危险和财产损失。

The products in this manual are industrial products and are all open-type housing designs. It is essential to install these products within a control cabinet that is safeguarded against dust, moisture, and accidents such as electric shocks or physical impacts. Additionally, protective measures must be taken to prevent malfunctions or damage caused by improper operation or accidents involving non-maintenance personnel. Failure to do so may lead to serious risks to personnel safety and potential loss of property.

更详细的信息请参考 X5E(F)A 系列伺服用户手册。

Please refer to the X5E(F)A series user's manual for more detailed information.

2. 适用型号 (Applicable model)

功率 (Power)	型号* (Model)	功率 (Power)	型号 (Model)
100W	SV-X5E(F)A010A-AS-00	2kW	SV-X5E(F)A200T-AS-00
200W	SV-X5E(F)A020A-AS-00	2.5kW	SV-X5E(F)A250A-AS-00
400W	SV-X5E(F)A040A-AS-00	3kW	SV-X5E(F)A300T-AS-00
750W	SV-X5E(F)A075A-AS-00	5kW	SV-X5E(F)A500A-AS-00
1kW	SV-X5E(F)A100A-AS-00	6.5kW	SV-X5E(F)A650A-AS-00
1.5kW	SV-X5E(F)A150A-AS-00	7.5kW	SV-X5E(F)A750A-AS-00
2kW	SV-X5E(F)A200A-AS-00		

*注：型号 SV- □ A- □ 中 A 表示电压规格 220V，SV- □ T- □ 中 T 表示电压规格 380V。SV-X5E □ - □ 中 E 表示标准型，SV-X5F □ - □ 中 F 表示全功能型。

*Note: "A" in SV- □ A- □ stands for the voltage specification of 220V, "T" in SV- □ T- □ stands for the voltage specification of 380V, "E" in SV-X5E- □ stands for standard type, and "F" in SV-X5F □ - □ stands for the full-function type.

3. 环境规格 (Environmental specifications)

3.1 环境规格 (Environmental requirements)

项目 (Item)	规格 (Specifications)	项目 (Item)	规格 (Specifications)
环境要求 (Environmental requirements)	控制柜内安装，开放式及室内使用 (Installation within a control cabinet, open-type and indoor use)	耐热等级 (Heat resistance class)	Class B
环境空气 (Ambient air)	无腐蚀性气体、易燃性气体、潮气、油雾、粉尘 (Free from corrosive gas, flammable gas, moisture, oil mist, and dust)	海拔 (Altitude)	1000m以下 (Below 1000m)
使用环境温度 (Ambient operating temperature)	0~55°C	耐振动 (Vibration resistance)	49m/s ² (5G)
保存环境温度 (Ambient storage temperature)	-20~65°C	耐冲击 (Impact resistance)	98m/s ² (10G)
环境湿度 (Ambient humidity)	20~80%RH 以下 (无结露) (Less than 20~80%RH (with no condensation))	保护等级 (Protection class)	IP 65

4. 安装说明 (Installation instructions)

4.1 控制柜安装 (Installation within a control cabinet)

<p>CN 设备冷却方式为自然冷却或通过加装风扇进行冷却，请保证安装方向与柜壁垂直。请参考右侧示意图，在设备的周围留有足够的空间，建议横向两侧预留 30mm 以上间距。</p>	
<p>EN Please install the product perpendicular to the wall and ensure a sufficient cooling effect via natural air or a cooling fan. Please leave enough clearance around the product as shown in the right figure. It is recommended to leave a horizontal clearance of more than 30 mm on both sides.</p>	

4.2 机柜背板安装 (Cabinet backplane mounting)

<p>CN 安装时请参考孔位图在机柜背板上开孔，使用合适的螺丝固定，锁紧扭矩为 3.5N.m。</p>	
<p>EN Please refer to the hole location map to drill holes on the back panel of the cabinet. Secure it with suitable screws and apply a tightening torque of 3.5 N.m.</p>	

4.3 端子拆装 (Terminal block mounting and dismounting)

<p>CN 拆装带有主电源输入接口，控制电源接口，再生电阻接口，母线电压负极，电机动力输出接口的端子如右图所示。</p>	<p>沿箭头所示方向插入端子 Intert the terminal block along the direction indicated by the arrow</p>	<p>按压锁扣并拔出端子 Press the latch and detach the terminal block</p>
<p>EN The mounting and dismounting of terminals with main power supply input interface, control power supply interface, regenerative resistor interface, negative polarity of busbar voltage, and motor power output interface are shown in the right figures.</p>		

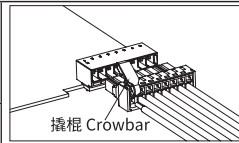
4.4 线缆拆装 (Cable connecting and disconnecting)

拆装主电源输入接口, 控制电源接口, 再生电阻接口, 母线电压负极, 电机动力输出接口的线缆需要使用撬棍, 拆装步骤如右图所示。

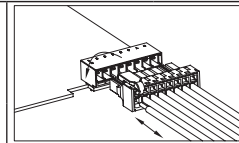
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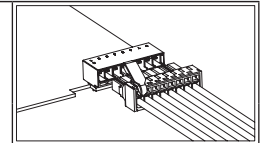
The scenarios using the crowbar include mounting and dismounting the cables of the main power supply input interface the control power interface, the regenerative resistor interface, the negative polarity of the busbar voltage, and the motor power output interface. The specific steps are shown in the figure on the right.



安装撬棍
Install the crowbar



按压撬棍, 将线缆插入/拔出端口
Press the crowbar and then insert or unplug a cable into or out of the port where the crowbar is installed

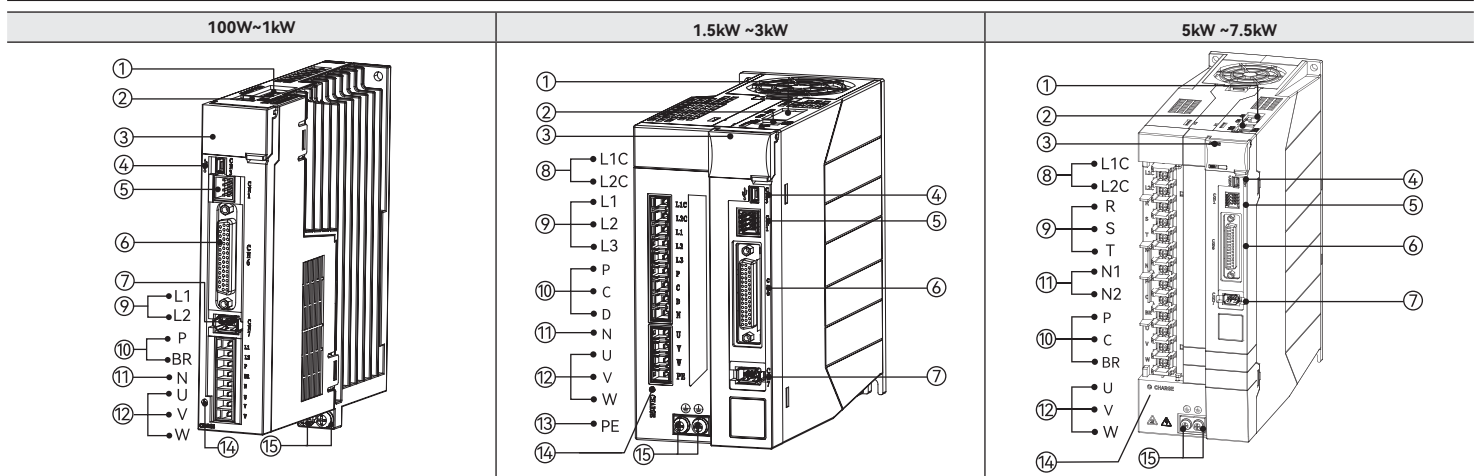


移除撬棍
Remove the crowbar

4.5 配线选择 (Wiring options)

功率 (Power)	线缆 (Cable)	线径 (Wire width): AWG	耐热 (Heat resistance)	线缆 (Cable)	线径 (Wire width): AWG	耐热 (Heat resistance)
750W以下 (750W or less)	主电源输入线缆 (Main circuit power supply cable)	18	105°C	再生电阻线缆 (Regenerative resistor cable)	18	105°C
	控制回路电源输入线缆 (Control circuit power supply cable)			STO线缆 (STO cable)		
	电机动力输出线缆 (Motor power output cable)			通讯线缆 (Communication cable)		
1kW以上 (1kW or more)	主电源输入线缆 (Main circuit power supply cable)	14	-	编码器线缆 (Encoder cable)	电源 (Power) : 22	-
	控制回路电源输入线缆 (Control circuit power supply cable)			信号 (Signal) : 24	-	
	电机动力输出线缆 (Motor power output cable)			-	-	

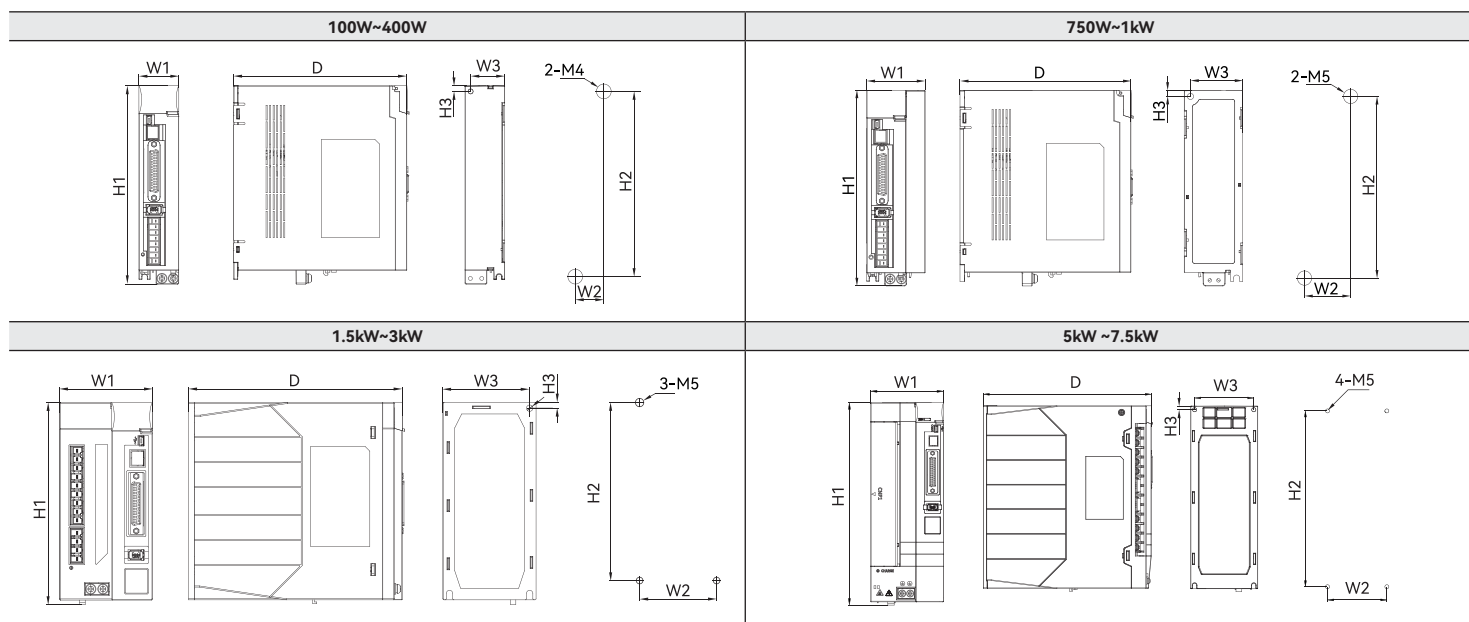
5. 接口和尺寸说明 (Interface and dimension description)



序号 (No.)	名称 (Name)	功能 (Function)			Function		
		100-1kw	1.5-3kw	5-7.5kw	100-1kw	1.5-3kw	5-7.5kw
1	CN4/CN5:RS485通讯接口 (RS485 communication interface)	RS485接口			RS485 interface		
2	CN2:STO接口 (CN2: STO interface)	安全扭矩关断接口			Safety Torque Off (STO) interface		
3	显示面板 (Display panel)	显示当前驱动器工作状态			Displays the current operating status of the drive		
4	CN3:Mini USB	PC通讯接口			PC communication interface		
5	CN1: 第二编码器接口 (CN1: Second encoder interface)	第二编码器接口			Second encoder interface		
6	CN6: 功能I/O接口 (CN6: Functional I/O interface)	通用数字量输入输出、高速脉冲输入输出接口			General-purpose digital input/output and high-speed pulse input/output interface		
7	CN7: 编码器接口 (CN7: Encoder interface)	编码器接口			Encoder interface		
8	L1C/L2C	-	控制电源输入		-	Control power supply input	
9	L1/L2 L1/L2/L3 R/S/T	L1/L2:主回路接口	L1/L2/L3: 主回路接口	R/S/T:主回路接口	L1/L2: Main circuit interface	L1/L2/L3: Main circuit interface	R/S/T: Main circuit interface
10	P/BR P/C/D P/C/BR	P/BR: 外部制动电阻接口	P/C/D: P/C短接, 使用内部制动电阻 P/C断开使用外部制动电阻 P/D: 外部制动电阻接口	P/C/BR: P/C短接, 使用内部制动电阻 P/C断开使用外部制动电阻 P/BR: 外部制动电阻接口	P/BR: External braking resistance interface	P/C/D: Short-circuit P/C to use the internal braking resistance; disconnect P/C to use the external braking resistance P/D: External braking resistance interface	P/C/BR: Short-circuit P/C to use the internal braking resistance; disconnect P/C to use the external braking resistance P/BR: External braking resistance interface
11	N N1/N2	N: 母线电压负极		N1/N2: 母线电压负极	N: Negative pole of the bus voltage		N1/N2: Negative pole of the bus voltage
12	U/V/W	电机动力输出			Motor power output		
13	PE接地端子 (PE grounding terminal)	-	电机接地端子		-	Motor grounding terminal	-
14	电源指示灯 (Power supply indicator)	电源供电指示灯			Power supply indicator		
15	电源接地端子 (Power supply grounding terminal)	电源接地端子			Power supply grounding terminal		

*注: 仅全功能型具备 CN2:STO 接口。

*Note: CN2: STO interface is only available for the full-function model.



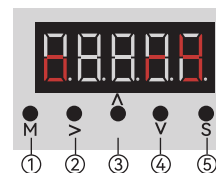
功率 (Power)	尺寸 (Dimension) :mm							背板孔径 Φ(Back panel hole diameterΦ):mm	重量 (Weight) :kg
	W1	W2	W3	H1	H2	H3	D		
100W~400W	35	25	30	174	162.5	5	152	5	0.8
750W~1kW	52	41	46.5	174	161.5	5.5	152	6	1
1.5kW~3kW	80	69	74.5	174	159.5	5	184	6	1.5
5~7.5KW	92	81	81	254	240	5.8	230	5.5	3.6

6. 指示灯和面板说明 (Indicator and LED panel description)

项目 (Item)	颜色	Color	状态	Status	详细说明	Description
电源指示灯 (Power supply indicator)	红色	Red		熄灭	Not lit	电源未接通
				常亮	Lit	电源接通



序号(No.)	项目 (Item)	说明	Description
1	MODE	退回低一级面板显示或由0级面板进入1级面板	Return to lower level panel or enter level 1 panel from level 0 panel
2	SHIFT	用于移动修改的数字位	Move the modified digit
3	UP	以步长1乘以相应权限值, 递增数字值	Increase the number value by multiplying the corresponding authority value by step 1
4	DOWN	以步长1乘以相应权限值, 递减数字值	Decrease the number value by multiplying the corresponding authority value by step 1
5	SET	进入到内存的面板显示或确认参数修改	Access to memory panel display or confirm parameter modification


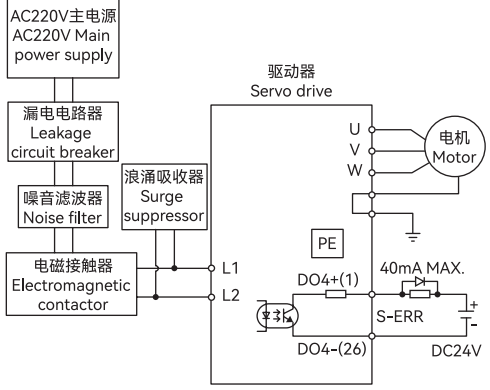

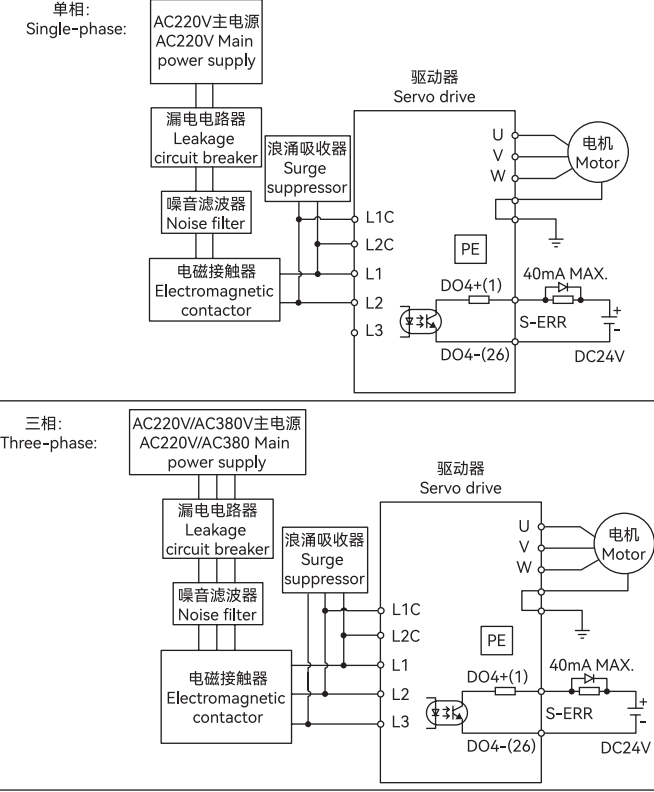

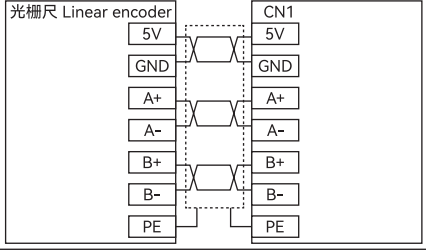

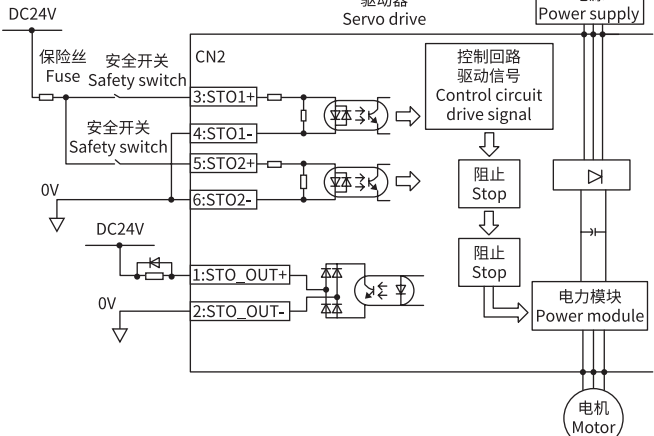


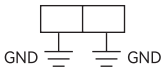
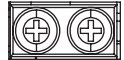
显示面板 (LED display)	说明	Description	显示面板 (LED display)	说明	Description
	接通电源	Power on		1级面板 Level 1 panel	显示参数组号 Parameter group number
	显示警告	Warning		2级面板 Level 2 panel	显示参数组号和组内偏移量 Parameter group number and in-group offset
	显示故障	Fault		3级面板 Level 3 panel	显示偏移量的参数值 Parameter value of the offset
	显示无故障	No fault			显示参数修改情况 Parameter modifications
	位置模式下运行	Running in the position mode			
	速度模式下正在运行	Running in the speed mode			
	转矩模式下正在运行	Running in the torque mode			

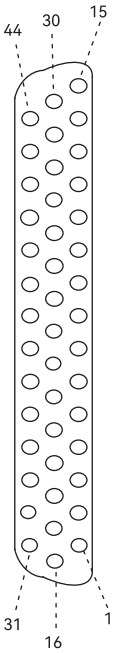
*注: 面板显示的详细内容请参考 X5 系列说明书及硬件手册。

*Note: For detailed information of the LED display, please refer to the X5 series instruction manual and hardware manual.

7. 端子及配线说明 (Terminal and wiring description)

端子 (Terminal)	引脚 (Pin)	说明 (Description)	接线 (Wiring)
 <p>L1 L2 P BR N U V W</p>	L1	主电源输入 Main power supply input	 <p>AC220V主电源 AC220V Main power supply</p> <p>驱动器 Servo drive</p> <p>电机 Motor</p> <p>漏电路器 Leakage circuit breaker</p> <p>浪涌吸收器 Surge suppressor</p> <p>噪声滤波器 Noise filter</p> <p>电磁接触器 Electromagnetic contactor</p> <p>再生电阻接口 Regenerative resistor interface</p> <p>母线电压负极 Negative polarity of the busbar voltage</p> <p>电机动力 U 相输出 Motor power U-phase output</p> <p>电机动力 V 相输出 Motor power V-phase output</p> <p>电机动力 W 相输出 Motor power W phase output</p> <p>PE</p> <p>40mA MAX.</p> <p>S-ERR</p> <p>DO4+(1)</p> <p>DO4-(26)</p> <p>DC24V</p>
	L2	主回路母线正极 Positive polarity of the main circuit busbar	
	P	主回路母线正极 Positive polarity of the main circuit busbar	
	BR	再生电阻接口 Regenerative resistor interface	
	N	母线电压负极 Negative polarity of the busbar voltage	
	U	电机动力 U 相输出 Motor power U-phase output	
	V	电机动力 V 相输出 Motor power V-phase output	
W	电机动力 W 相输出 Motor power W phase output		
 <p>L1C L2C L1 L2 L3 P C D N U V W PE</p>	L1C	220V机型: 1.5kW-2.5kW 单相220V控制电源输入 380V机型: 2kW-3kW 单相380V控制电源输入	 <p>单相: Single-phase:</p> <p>三相: Three-phase:</p> <p>AC220V主电源 AC220V Main power supply</p> <p>AC220V/AC380V主电源 AC220V/AC380 Main power supply</p> <p>驱动器 Servo drive</p> <p>电机 Motor</p> <p>漏电路器 Leakage circuit breaker</p> <p>浪涌吸收器 Surge suppressor</p> <p>噪声滤波器 Noise filter</p> <p>电磁接触器 Electromagnetic contactor</p> <p>220V机型: 1.5kW-2.5kW 单相/三相 220V主电源输入 380V机型: 2kW-3kW 三相380V主电源输入</p>
	L2C	220V机型: 1.5kW-2.5kW 单相/三相 220V主电源输入 380V机型: 2kW-3kW 三相380V主电源输入	
	L1	220V机型: 1.5kW-2.5kW 单相/三相 220V主电源输入 380V机型: 2kW-3kW 三相380V主电源输入	
	L2	220V机型: 1.5kW-2.5kW 单相/三相 220V主电源输入 380V机型: 2kW-3kW 三相380V主电源输入	
	L3	220V机型: 1.5kW-2.5kW 单相/三相 220V主电源输入 380V机型: 2kW-3kW 三相380V主电源输入	
	P	P/C短接, 使用内部制动电阻 P/C short-circuited, use internal braking resistor	
	C	P/C断开, P/D接外部制动电阻 P/C disconnected, connect P/D to external braking resistor	
	D	P/C断开, P/D接外部制动电阻 P/C disconnected, connect P/D to external braking resistor	
	N	母线电压负极 Negative polarity of the busbar voltage	
	U	电机动力 U 相输出 Motor power U-phase output	
	V	电机动力 V 相输出 Motor power V-phase output	
	W	电机动力 W 相输出 Motor power W-phase output	
	PE	电机接地端子 Motor ground terminal	
 <p>GND A- B- NC</p>	5V	供给外部位移传感器的电源 Power supply for external displacement sensor	 <p>光栅尺 Linear encoder</p> <p>驱动器 Servo drive</p> <p>5V</p> <p>GND</p> <p>A+</p> <p>A-</p> <p>B+</p> <p>B-</p> <p>PE</p>
	GND	5V电源参考地 5V power supply reference ground	
 <p>STO_OUT- STO2- STO1- COM</p>	24V	24V 输出 24V Output	 <p>DC24V</p> <p>驱动器 Servo drive</p> <p>电源 Power supply</p> <p>电机 Motor</p> <p>电力模块 Power module</p> <p>控制回路驱动信号 Control circuit drive signal</p> <p>阻止 Stop</p> <p>阻止 Stop</p> <p>安全开关 Safety switch</p> <p>安全开关 Safety switch</p> <p>保险丝 Fuse</p> <p>3:STO1+</p> <p>4:STO1-</p> <p>5:STO2+</p> <p>6:STO2-</p> <p>1:STO_OUT+</p> <p>2:STO_OUT-</p>
	COM	0V输出 0V Output	
	STO1+	2个独立电路, 驱动信号可切断电源 Two independent circuits Drive signal can cut off power	
	STO1-		
	STO2+		
	STO2-		
	STO_OUT+	监视输出 Monitor output	
STO_OUT-	监视输出 Monitor output		

端子 (Terminal)	引脚 (Pin)	说明 (Description)		接线 (Wiring)
PE/电源接地端子 PE/Power supply ground terminal	GND	接地	Grounding	
	GND			

端子 (Terminal)	序号 (No.)	引脚 (Pin)	说明 (Description)	
	1	DO4+	数字信号输出+	Digital signal output +
	2	DO3-	数字信号输出-	Digital signal output -
	3	DO3+	数字信号输出+	Digital signal output +
	4	DO2-	数字信号输出-	Digital signal output -
	5	DO2+	数字信号输出+	Digital signal output +
	6	DO1-	数字信号输出-	Digital signal output -
	7	DO1+	数字信号输出+	Digital signal output +
	8/9/10	DI4/DI1/DI2	数字信号输入	Digital signal input
	11	DI_COM	数字信号输入公共端	Digital signal input common terminal
	12	CC-D	集电极脉冲指令输入SIGN电源 (24V)	Collector pulse instruction input SIGN power supply (24V)
	13	OUTZ+	脉冲输出Z信号+	Pulse output Z signal +
	14	G24V	驱动器电源 GND	Drive power supply GND
	15/16	-	-	-
	17	+24V	驱动器电源 24V 输出	Drive power supply 24V output
	18	AI1	模拟量输入1	Analog input 1
	19	AI2	模拟量输入2	Analog input 2
	20	GND	模拟量参考GND	Analog reference GND
	21	OUTA+	脉冲输出A信号+	Pulse output A signal +
	22	OUTA-	脉冲输出A信号-	Pulse output A signal -
	23	OUTB-	脉冲输出B信号-	Pulse output B signal -
	24	OUTZ-	脉冲输出Z信号-	Pulse output Z signal -
	25	OUTB+	脉冲输出B信号+	Pulse output B signal +
	26/27	DO4-/DO5-	数字信号输出-	Digital signal output-
	28	DO5+	数字信号输出+	Digital signal output +
	29	GND_OZ	集电极Z信号输出参考地	Collector Z signal output reference ground
	30/31/32/33/34	DI8/DI7/DI6/DI5/DI3	数字信号输入	Digital signal input
	35	CC-P	集电极脉冲指令输入PULS电源 (24V)	Collector pulse instruction input PULS power supply (24V)
	36	-	-	-
	37	SIGN+	脉冲指令SIGN+	Pulse instruction SIGN+
	38	-	-	-
	39	SIGN-	脉冲指令SIGN-	Pulse instruction SIGN-
	40	-	-	-
	41	PULS+	脉冲指令PULS+	Pulse instruction PULS+
	42	-	-	-
	43	PULS-	脉冲指令PULS-	Pulse instruction PULS-
	44	OZOUT	集电极Z信号输出	Collector Z signal output

脉冲指令差分输入 (Pulse instruction differential input)

脉冲指令24V集电极开路输入 (Pulse instruction 24V open collector output)

