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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。要求用户使用产品时，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 SV760 系列高阶 EtherCAT 总线伺服用户手册。
Please refer to the SV760 series high-end EtherCAT bus servo instruction manual for more detailed information.

2. 命名规则 (Model identification)

SV760 B A - 2R8 S 0 0 - 00-00
1 2 3 4 5 6 7 8

1	产品系列 (Product series)	4	电流规格/功率 (Current specifications/Power)						6	规格配置 (Specification configuration)
SV760	SV760系列 (SV760 series)	AC220V			AC380V			0	无DB,无第二编码器 (Without DB, without second encoder)	
		R90	0.9A	100W	3R5	3.5A	1KW			
2	控制类型 (Control type)	1R6	1.6A	200W	5R4	5.4A	1.5KW	1	有DB,无第二编码器 (With DB, without second encoder)	
A	脉冲型 (Pulse type)	2R8	2.8A	400W	8R4	8.4A	2KW			
B	EtherCAT总线型 (EtherCAT bus type)	5R5	5.5A	750W	012	12A	3KW			
		7R6	7.6A	1KW	017	17A	5KW	7	有无刹车电阻 (Brake resistor)	
3	电压等级 (Voltage class)	012	12A	1.5KW	021	21A	6KW	0	无 (Without brake resistor)	
A	AC220V 1P/3P	016	16A	2KW	026	26A	7.5KW	1	有 (With brake resistor)	
T	AC380V 3P									
		5	安全功能配置 (Safety function configuration)						8	软件/固件定制代码 (Customized software/firmware code)
		0	无STO (Without STO function)						X	0~9/A~Z/空 (N/A)
		S	STO机种 (With STO function)							

3. 适用型号 (Applicable model)

3.1 适配型号 (Applicable model)			
产品系列 (Product series)		SV760 系列 (SV760 series)	
电源 (Power supply)	功率 (Power)	脉冲 (Pulse type)	EtherCAT 总线 (EtherCAT bus type)
AC220V	0.1kW	SV760AA-R90-S10	SV760BA-R90-S10
	0.2kW	SV760AA-1R6-S10	SV760BA-1R6-S10
	0.4kW	SV760AA-2R8-S10	SV760BA-2R8-S10
	0.75kW	SV760AA-5R5-S11	SV760BA-5R5-S11
	1kW	SV760AA-7R6-S11	SV760BA-7R6-S11

4. 通用电气及环境规格 (General electrical and environmental specifications)

4.1 通用电气规格 (General electrical specifications)						
220V 标准型 (1P/3P) (220V standard type (Single-phase/Three-phase))						
项目 (Item)		Size A			Size B	
SV7**BA-***-***		R90	1R6	2R8	5R5	7R6
驱动器功率 (Servo drive power) [kW]		0.1	0.2	0.4	0.75	1.0
最大适用电机容量 (Maximum applicable motor capacity) [kW]		0.1	0.2	0.4	0.75	1.0
连续输出电流 (Continuous output current) [Arms]		0.9	1.6	2.8	5.5	7.6
最大输出电流 (Maximum output currentt) [Arms]		4.6	5.8	9.3	16.9	17
主回路 (Main circuit)	电源 (Power supply)	单相AC180 ~ AC264V, 50/60Hz (Single-phase AC180 ~ AC264V, 50/60Hz)			三相AC180 ~ 264V、50/60Hz (Three-phase AC180 ~ 264V, 50/60Hz)	
	连续输入电流 (Continuous input current) [Arms]	0.8	1.3	2.5	4.1	5.7
控制电源 (Control circuit power supply)		共用主回路电源 (Shared main circuit power supply)				
制动电阻 (Braking resistor)	电阻阻值 (Resistance value) [Ω]	-	-	-	50	50
	电阻功率 (Resistance power) [W]	-	-	-	80	80
	外置最小容许电阻值 (Minimum allowable external resistance value) [Ω]	40	40	40	40	35
冷却方式 (Cooling method)		自然冷却 (Natural air cooling)			风冷* (Cooling fan)	
过电压等级 (Overvoltage level)		III				

*注：风扇更换需联系厂家，禁止自行更换
*Note: Fan replacement requires contacting the manufacturer; self-replacement is prohibited.

4.2 环境规格 (Environmental requirements)			
项目	Item	规格	Specifications
海拔高度	Altitude	≤2000m (1000m以上每上升100m降额1%)	≤2000m (Derating: 1% per 100m above 1000m)
使用环境	Operating environment	控制柜内安装，开放式及室内使用	Installation within a control cabinet, open-type and indoor use
工作温度	Operating temperature	-5~+55℃ (-5~+45℃无需降额，温度超过45℃时降额使用，每升高1℃降额2%)	-5 to +55℃ (Derating is not required for temperatures from -5 to +45℃. Derating is required for temperatures above +45℃, with a derate of 2% for every 1℃ increase.)
储存温度	Storage temperature	-20~+80℃	-20~+80℃
环境湿度	Ambient humidity	≤90%RH (无结露)	≤90%RH (non-condensing)
振动耐受	Vibration resistance	5.88m/s²(0.6G)以下，10~60Hz(避免在共振点连接使用)	≤5.88m/s² (0.6G), 10~60Hz (avoid connecting and using at resonance points)
污染等级	Pollution degree	污染度2及以下	Pollution degree II or below
防护等级	IP rating	IP20	IP20

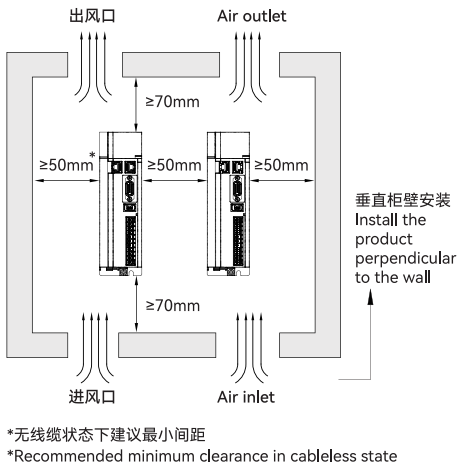
*注：若设备未依制造商指定方式使用，设备所提供的保护可能会被减弱。
*Note: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

5. 安装说明 (Installation instructions)

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

CN 请保证安装方向与墙壁垂直，使用自然对流或风扇对设备进行冷却，通过螺钉固定安装在控制柜。请参考右侧示意图，在设备周围留有足够的空间。并排安装时，建议横向两侧预留 50mm 以上间距。

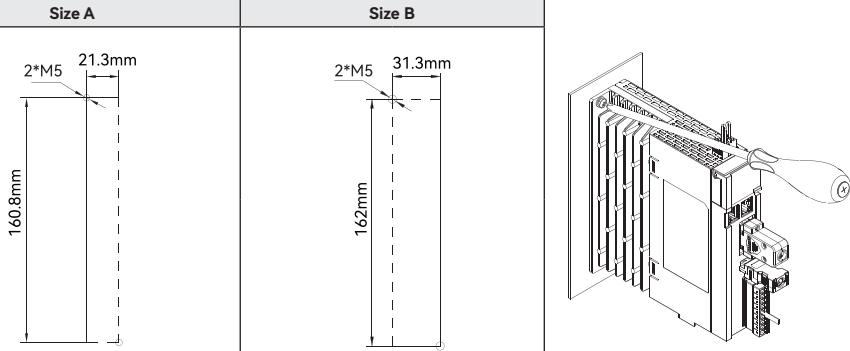
EN Please install the product perpendicular to the wall and ensure a sufficient cooling effect via natural air or a cooling fan. Fix and install it in the control cabinet with screws. Please leave enough clearance around the product as shown in the right figure. During a side-by-side installation, please leave a horizontal clearance of more than 50 mm on both sides.



5.2 背板安装 (Backplane mounting)

CN 按孔位图在机柜背板上开孔，使用 2 个 M5 螺丝固定，锁紧扭矩为 3.5N.m。

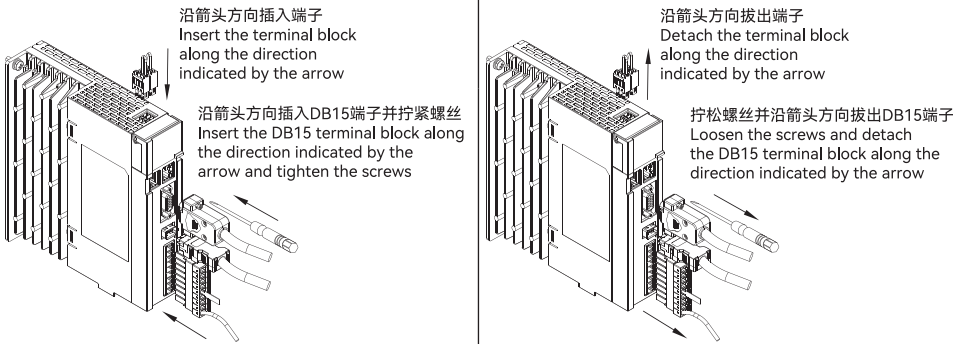
EN Drill holes on the back panel of the cabinet according to the hole map. Please use two M5 screws with the tightening torque of 3.5 N.m to secure it.



5.3 端子拆装 (Terminal block mounting and dismounting)

CN 端子拆装如右图所示。

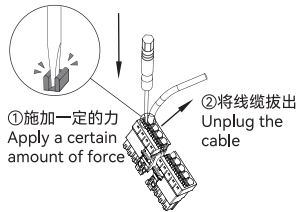
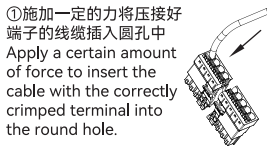
EN The mounting and dismounting of the removable terminal block are shown in the figures on the right side.



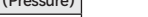
5.4 动力输入输出线缆拆装 (Power supply cable connecting and disconnecting)

CN 安装线缆时，将压接好端子的线缆施加一定的力垂直插入可拆卸端子的圆孔中，轻拽线缆，线缆不松动即完成配线。拆卸线缆时，将一字螺丝刀垂直插入可拆卸端子压块内，施加一定的力，拔出线缆即可。

EN During connection, apply a certain amount of force to vertically insert the cable with the correctly crimped terminal into the round hole of the detachable terminal. Pull the cable gently; if it does not loosen, the wiring is complete. During disconnection, insert a flathead screwdriver vertically into the unlocking tab of the detachable terminal, apply a certain amount of force, and unplug the cable.

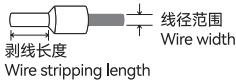


端子 (Terminal)	名称 (Name)	线径范围: AWG (Wire width)					剥线长度: mm (Wire stripping length)	线温: °C (Pressure)
		R90	1R6	2R8	5R5	7R6		
L1、L2、L3	主回路电源输入端子(Main circuit power supply input terminal)	18				16	10~11	-40~105
U、V、W	伺服电机连接端子(Servo motor connection terminal)	18			16		10~11	-40~105
B1、B2	外接制动电阻连接端子(External braking resistor connection terminal)	根据外置电阻的实际功率确定，可咨询电阻厂商或者我司技术人员 (Determined by the actual power of the external resistor, it is advisable to consult the resistor manufacturer or the company's technical personnel)						



剥线长度
Wire stripping length

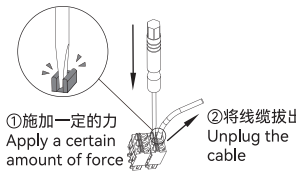
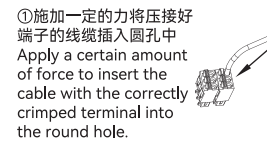
线径范围
Wire width



5.5 STO 端子线缆拆装 (STO interface cable connecting and disconnecting)

CN 安装线缆时，将压接好端子的线缆施加一定的力垂直插入可拆卸端子的圆孔中，轻拽线缆，线缆不松动即完成配线。拆卸线缆时，将一字螺丝刀垂直插入可拆卸端子压块内，施加一定的力，拔出线缆即可。

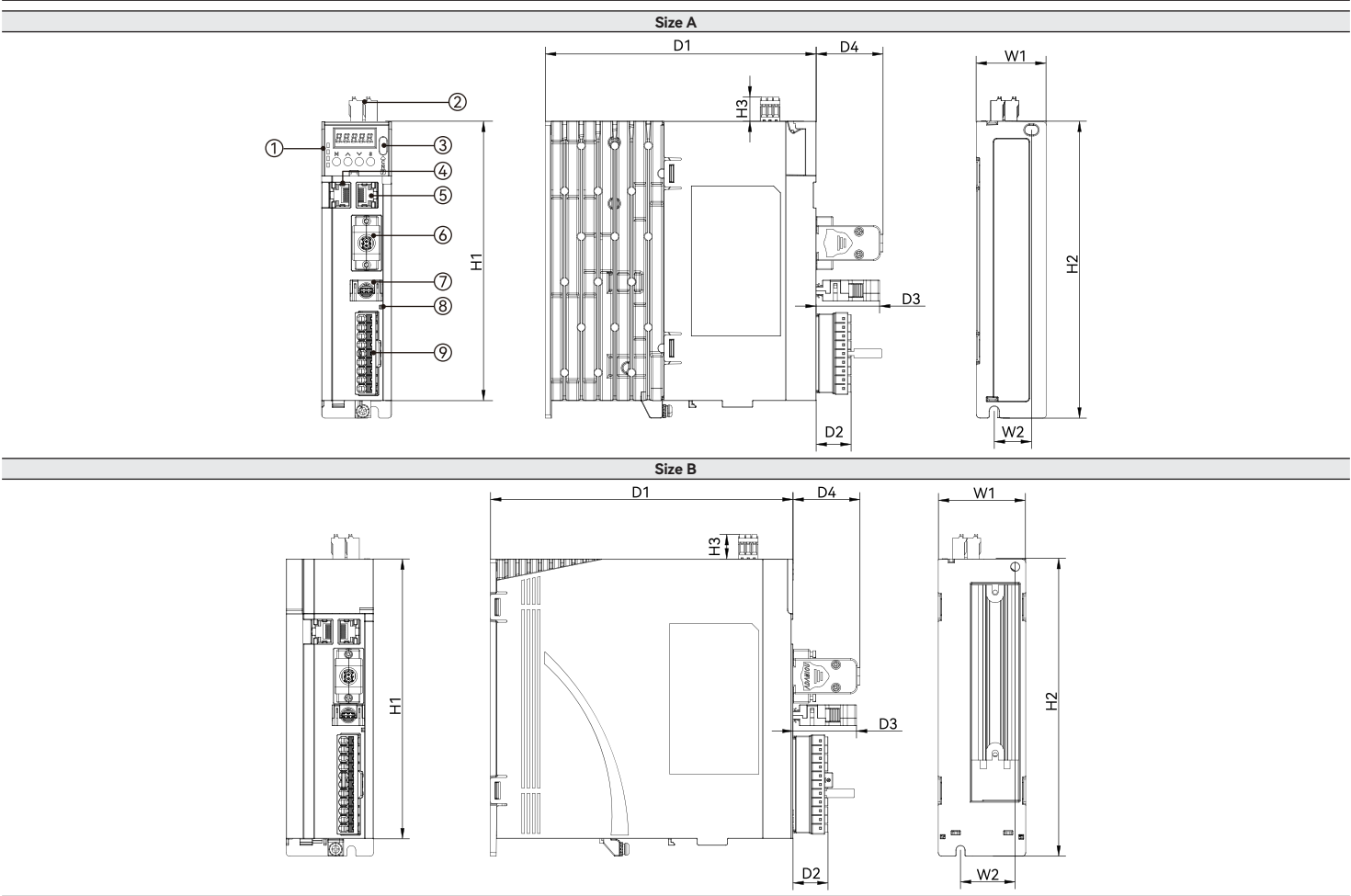
EN During connection, apply a certain amount of force to vertically insert the cable with the correctly crimped terminal into the round hole of the detachable terminal. Pull the cable gently; if it does not loosen, the wiring is complete. During disconnection, insert a flathead screwdriver vertically into the unlocking tab of the detachable terminal, apply a certain amount of force, and unplug the cable.



端子 (Terminal)	名称 (Name)	线径范围: AWG (Wire width)					剥线长度: mm (Wire stripping length)	线温: °C (Pressure)	 剥线长度 Wire stripping length
		R90	1R6	2R8	5R5	7R6			
STO	STO安全端子(STO safety terminal)	24~16					9~10	-40~105	

警告：只能使用铜导线。
⚠ Warning: Use only a copper conductor.
Attention: Utilisez uniquement des conducteurs en cuivre.

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



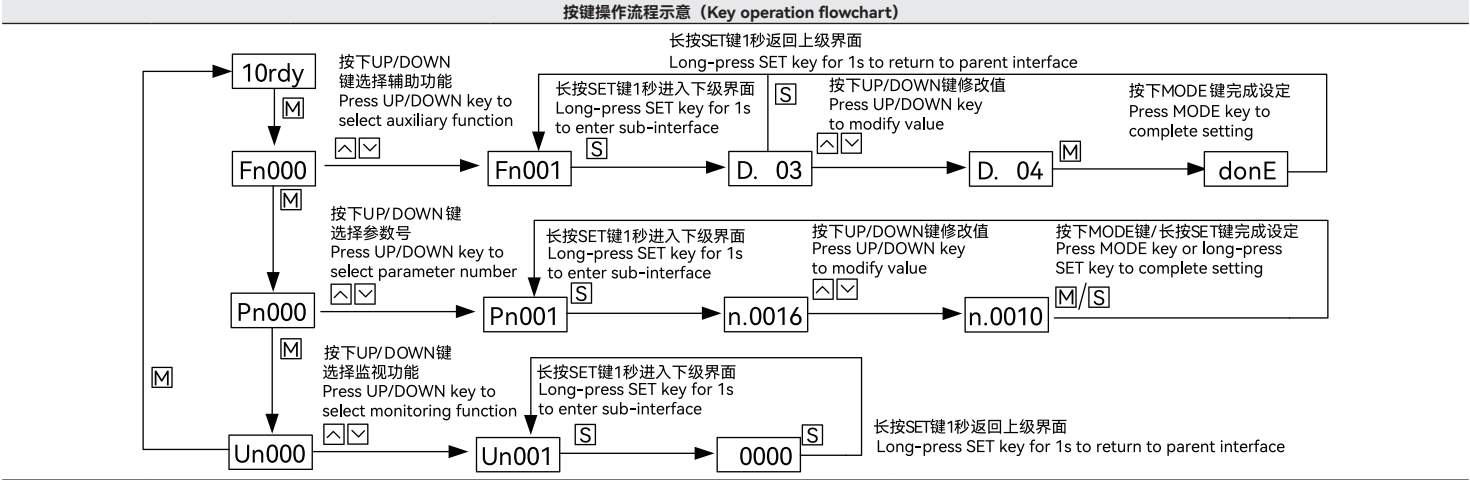
型号 (Model)	外形尺寸 (Dimension) : mm								
	W1	W2	H1	H2	H3	D1	D2	D3	D4
Size A	40	21.3	160	170	14	155	20	36.3	38.3
Size B	50	31.3				173			

序号(No.)	名称	Name	功能	Function
1	显示面板	Display panel	显示伺服的运行状态和参数设定	Display the operating status and parameter settings of the servo
	面板按键*2	Panel key*2	1. MODE键 (模式及确认键) 2. UP键 3. DOWN键 4. SET键	1. MODE key (mode and confirm key) 2. UP key 3. DOWN key 4. SET key
	STO安全接口	STO safety interface	安全扭矩关断	Safe torque off
	USB接口	USB interface	TYPE-C PC调试接口	Type-C PC debugging interface
4	RJ45接口	RJ45 interface	EtherCAT总线通讯接口	EtherCAT bus communication interface
5	DB15接口	DB15 interface	功能IO接口	Function IO interface
6	编码器接口	Encoder interface	电机编码器接口	Motor encoder interface
7	CHARGE	CHARGE	母线电压指示灯，灯亮请勿触摸电源端子，以免触电	Bus voltage indicator. When the light is on, do not touch the power terminal to avoid electric shock.
8	动力输入输出接口*1	Power supply interface*1	L1、L2、L3: 主回路电源输入 B1、B2、B3: 制动电阻连接接口 U、V、W: 伺服电机连接接口 PE: 接地接口	L1、L2、L3: Main circuit power supply input B1、B2、B3: Braking resistor connection interface U、V、W: Servo motor connection interface PE: Grounding interface

*注 1: 400W 及以下，仅支持 L1、L2 输入，仅支持 B1、B2 外接制动电阻连接接口；750W 以上，支持 B2、B3 内置制动电阻。
*Note 1: For 400W and below, only L1 and L2 inputs are supported, and only B1 and B2 external braking resistor connection interfaces are supported; for 750W and above, built-in braking resistors at B2 and B3 are supported.

面板按键说明*2 (Panel key description*2)				
丝印 (Screen printing)	名称	Name	功能	Function
M	MODE键 (模式及确认键)	MODE key (mode and confirm key)	(1) 切换基本模式: 辅助能、参数设定、监视功能。 (2) 确认设定值: 修改参数后，短按此键，确认设定值。效果与SET键一致。	(1) Switch basic modes: auxiliary functions, parameter settings, monitoring functions. (2) Confirm setting value: After modifying the parameters, short-press the key to confirm the set value. The effect is consistent with the SET key.
^	UP键	UP key	(1) 增大设定值。 (2) 在辅助功能模式JOG运行时作为正转启动键。	(1) Increase the set value. (2) Serve as the forward start key during JOG operation in the auxiliary function mode.

✓	DOWN键	DOWN key	(1) 减小设定值。 (2) 在辅助功能模式JOG运行时作为反转启动键。	(1) Decrease the set value. (2) Serve as the reverse start key during JOG operation in the auxiliary function mode.
S	SET键	SET key	(1) 长按此键1s以上, 可显示各参数的设定值。 (2) 修改参数后, 长按此键1s以上, 确定设定值。 (3) 短按此键将数位向左移动一位 (数位闪烁时), 若数据长度超过面板显示四位时, 可按四次, 将面板显示切换到中间四位, 再按四次切换到前两位。	(1) Press and hold this key for at least 1 second to display the set values of each parameter. (2) After modifying the parameters, press and hold this key for more than 1 second to confirm the set value. (3) Short press this key to move the digits to the left by one digit (when the digits blinking). If the data length exceeds four digits displayed on the panel, press it four times to switch the panel display to the middle four digits, and then press it four more times to switch to the first two digits.



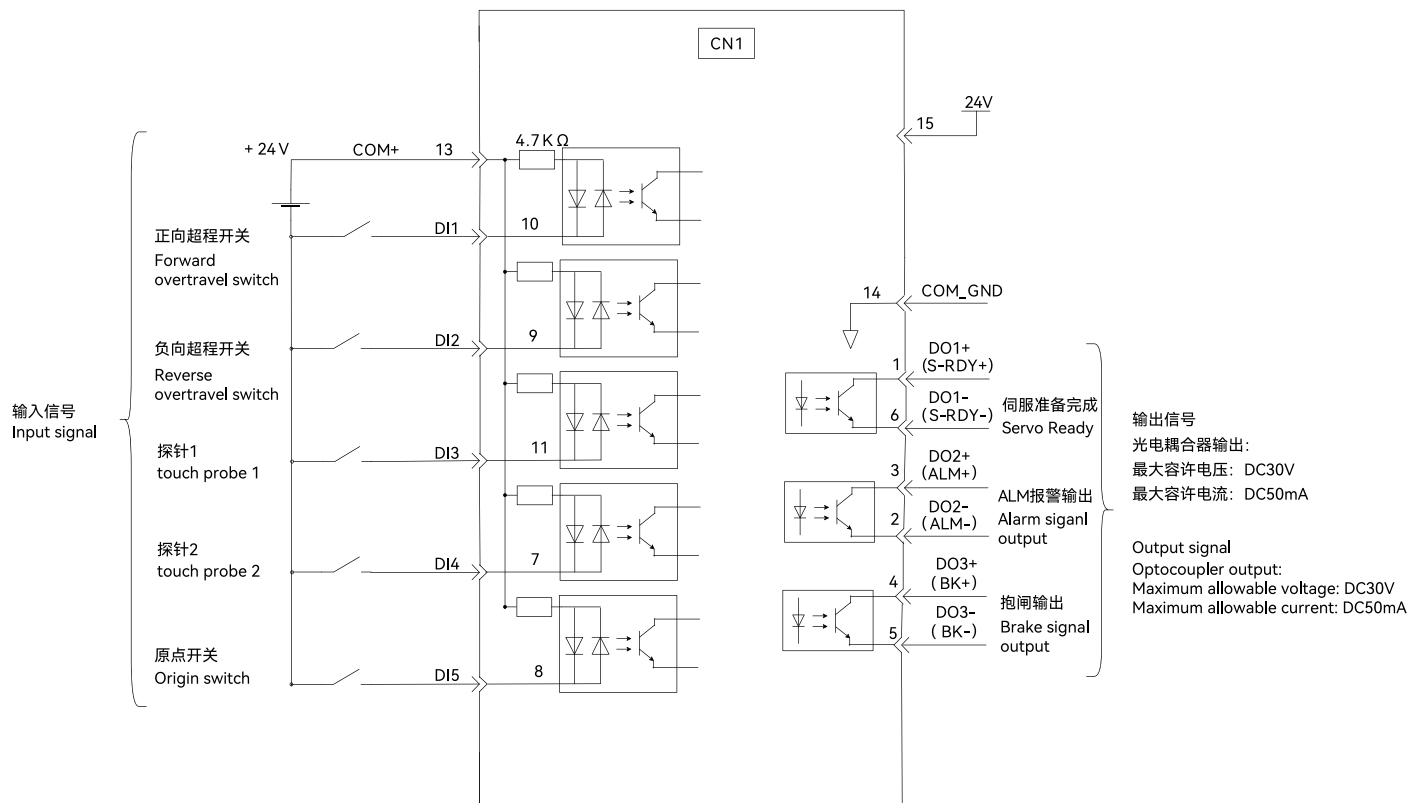
7. 端子及配线说明 (Terminal and wiring description)

CN1: DB15功能IO接口说明 (CN1: DB15 Functional I/O interface description)

序 (NO.)	丝印 (Screen printing)	默认功能 (Default functions)	序 (NO.)	丝印 (Screen printing)	默认功能 (Default functions)	序 (NO.)	丝印 (Screen printing)	默认功能 (Default functions)
1	DO1+ (S-RDY+)	伺服准备完成 (Servo Ready)	6	DO1- (S-RDY-)	伺服准备完成 (Servo Ready)	11	DI3	探针1 (Touch probe 1)
2	DO2- (ALM-)	ALM报警输出 (Alarm siganl output)	7	DI4	探针2 (Touch probe 2)	12	-	-
3	DO2+ (ALM+)		8	DI5	原点开关 (Origin switch)	13	COM+	输入公共端 (Input common terminal)
4	DO3+ (BK+)	抱闸输出 (Brake signal output)	9	DI2	负向超程开关 (Reverse overtravel switch)	14	COM_GND	GND
5	DO3- (BK-)		10	DI1	正向超程开关 (Forward overtravel switch)	15	24V	外部24V电源输入 (External 24 V power input)

可配置功能 (Configurable functions)	探针1 (Touch probe 1)	探针2 (Touch probe 2)	原点开关 (Origin switch)	负向超程开关 (Reverse overtravel switch)	正向超程开关 (Forward overtravel switch)
支持的DI通道 (Supported DI channels)	DI3, DI4		DI1, DI2, DI3, DI4, DI5		
可配置功能 (Configurable functions)	伺服准备完成 (Servo Ready)		ALM报警输出 (Alarm siganl output)		抱闸输出 (Brake signal output)
支持的DO通道 (Supported DO channels)	DO1, DO2, DO3				

伺服单元 Servo unit



注：图纸可供接线参考，IO 功能选择请参考上表。

Note: The drawings are intended for wiring reference. Please consult the table above for IO function selection.

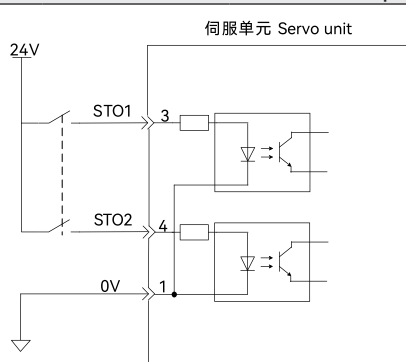
CN2: 编码器接口说明 (CN2: Encoder interface description)

针脚 (Pin)	信号 (Signal)	功能 (Function)
1	PG 5V	编码器电源+5V (Encoder power supply +5V)
2	PG 0V	编码器电源0V (Encoder power supply 0V)
3	-	-
4	-	-
5	PS	串行数据 (+) (serial data (+))
6	/PS	串行数据 (-) (serial data (-))
壳体 (housing)	屏蔽 (shield)	-

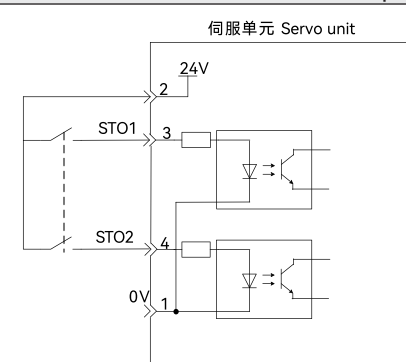
CN3: STO功能接口说明 (CN3: STO interface description)

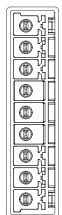
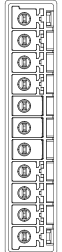
针脚 (Pin)	信号 (Signal)	功能 (Function)
1	0V	STO参考地 (STO reference ground)
2	24V	内部24V电源 (Internal 24V power supply)
3	STO1	功能安全STO1信号输入 (Functional safety STO1 signal input)
4	STO2	功能安全STO2信号输入 (Functional safety STO2 signal input)
5	EDM+	/STO1、/STO2 均已输入，且 STO状态工作时 ON (The /STO1 and /STO2 signals are both input, and the STO status is ON during operation)
6	EDM-	/STO1、/STO2 均已输入，且 STO状态工作时 ON (The /STO1 and /STO2 signals are both input, and the STO status is ON during operation)

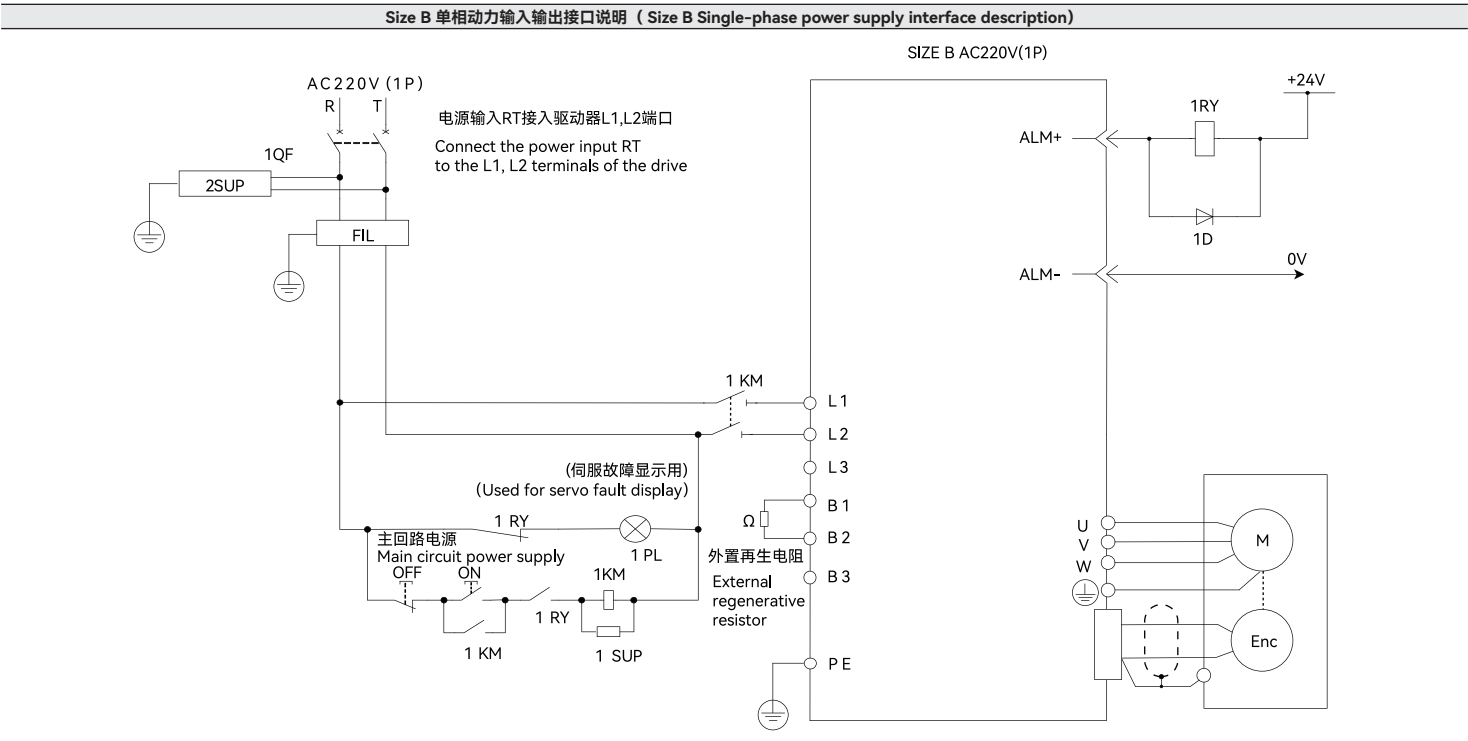
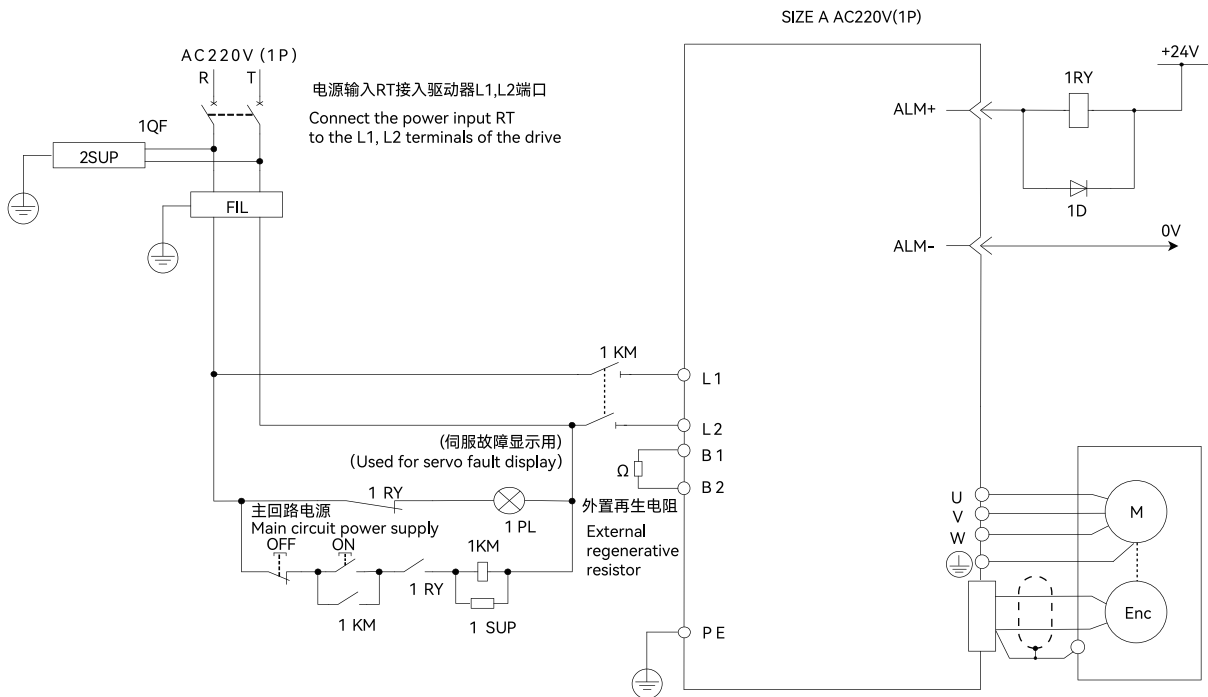
外部24V连接示例 (External 24V connection example)

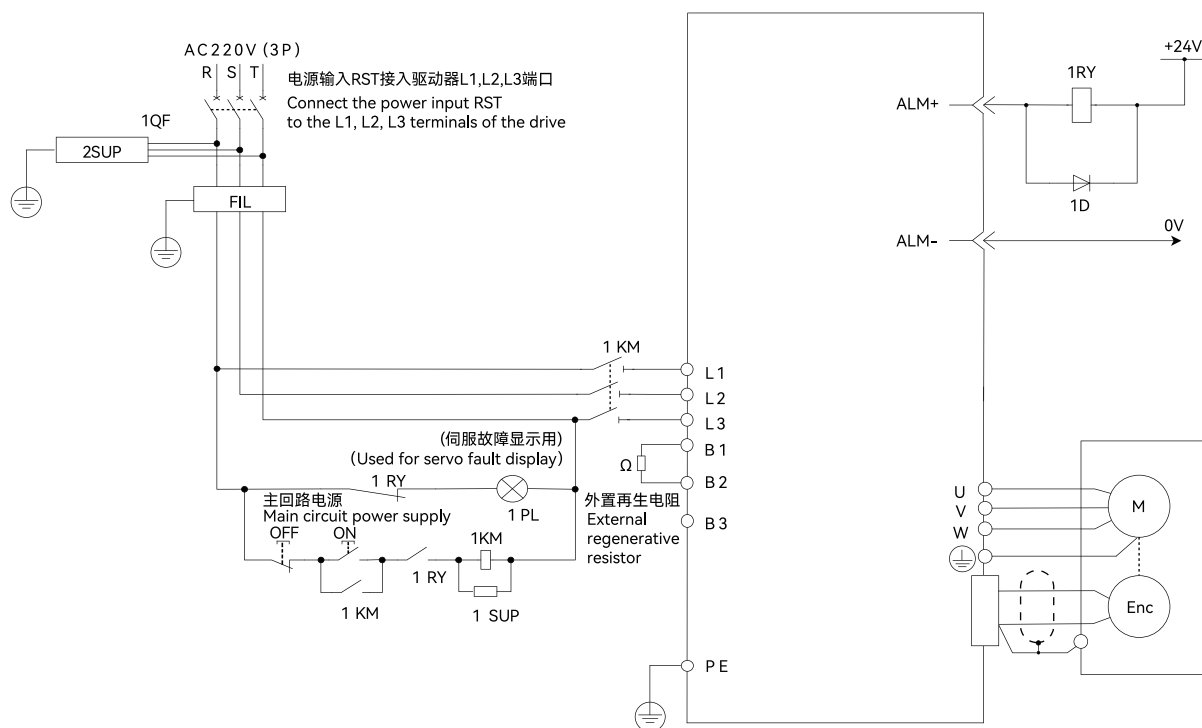


内部24V连接示例 (Internal 24V connection example)



CNP: 电源及动力输入接口 (CNP: Size A Power supply and drive input interface)				
丝印 (Screen printing)		功能 (Function)	丝印 (Screen printing)	功能 (Function)
Size A				
	L1	L1、L2 主回路电源输入端子，参考铭牌额定电压等级输入主回路电源。 (L1, L2 main circuit power input terminals. Please refer to the rated voltage level on the nameplate to input the main circuit power.)	U	U、V、W 伺服电机连接端子，连接伺服电机 U、V、W 相。 (U, V, W servo motor connection terminals. Connect the U, V, and W phases of the servo motor.)
	L2		V	
	B1	B1、B2外接制动电阻连接端子。 (B1, B2 external braking resistor interface.)	W	
	B2			PE接地端子，与电机接地端子连接，进行接地处理。 (PE grounding terminal.Connect to the motor grounding terminal for grounding.)
	N-	主回路母线 (Main circuit bus)		
	Size B			
	L1	L1、L2、L3主回路电源输入端子，参考铭牌额定电压等级输入主回路电源。 (L1, L2, L3 main circuit power input terminals. Please refer to the rated voltage level on the nameplate to input the main circuit power.)	U	U、V、W 伺服电机连接端子，连接伺服电机 U、V、W 相。 (U, V, W servo motor connection terminals. Connect the U, V, and W phases of the servo motor.)
	L2		V	
	L3		W	
	B1	B1、B2外接制动电阻连接端子。 (B1, B2 external braking resistor interface.)		PE接地端子，与电机接地端子连接，进行接地处理。 (PE grounding terminal.Connect to the motor grounding terminal for grounding.)
	B2			
	B3	B2、B3内置再生电阻连接端子。 (B2, B3 built-in regenerative resistor interface.)		
	N-	主回路母线 (Main circuit bus)		
Size A 单相动力输入输出接口说明 (Size A Single-phase power supply interface description)				





端子 (Terminal)	信号 (Signal)	针脚 (Pin)
CN6A (In)		
	TD+	1
	TD-	2
	RD+	3
	-	4&5
	RD-	6
	-	7&8
CN6B (Out)		
	-	1
	RD-	2
	-	3
	RD+	4&5
	TD-	6
	TD+	7&8