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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，并且均为开放式外壳设计。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 SV-D5 系列脉冲伺服用户手册。

Please refer to the SV-D5 series pulse servo user manual for more detailed information.

2. 命名规则 (Model identification)

SV-D5 A D - 1R0 - 0 A Y - 0000

1 2 3 4 5 6 7 8

1	产品系列 (Product series)
SV-D5	D5带旋转伺服系列 (D5 rotary servo series)
2	控制方式 (Control mode)
A	脉冲型/RS485 (Pulse type / RS485)
B	EtherCAT总线型 (EtherCAT bus type)
N	CANopen型* (CANopen type*)
3	电压等级 (Voltage class)
D	DC 24~60V

4	额定电流 (Rated current)
1R0	1A
3R5	3.5A
015	15A
021	21A

5	功能安全配置 (Functional safety configuration)
0	无STO (No STO)
S	STO机种 (STO model)

6	产品类型 (Product type)
A	标准 (Standard)

7	接口类型 (Interface type)
Y	端子侧出/不带外壳 (Terminal side outlet / Without housing)
V*	端子正出/RJ45网口 (定制) (Terminal front outlet / RJ45 Ethernet port (customized))
U*	端子侧出/带外壳 (定制) (Terminal side outlet / With housing (customized))

8	软件/固件定制代码 (Customized software/firmware code)
X	0~9/A~Z/空 (N/A)

*注：型号研发中。

*Note: The model is under research and development.

3. 适用型号 (Applicable model)

额定功率 (Rated power)	型号 (Model)	额定功率 (Rated power)	型号 (Model)
10W	SV-D5AD-1R0-0AY	400W	SV-D5AD-015-0AY
100W	SV-D5AD-3R5-0AY	750W	SV-D5AD-021-0AY

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)

项目 (Item)	参数规格 (Parameter specifications)			
	1R0	3R5	015	021
SV-D5AD-***- (0) AY				
额定功率 (Rated power) [W]	10	100	400	750
额定电流 (Rated current) [Arms]	1	3.5	15	21
最大输出电流 (Max. output current) [Arms]	2.5	8.75	37.5	52.5
输入电源 (Input power supply)	主回路电源 (Main circuit power supply)		DC 24~60V	
	控制电源 (Control circuit power supply)		从主电源取电 (Powered from the main power supply)	
DI输入 (DI input)	电压 (Voltage)		DC24V±10%	
	电流 (Current)		10mA	
DO输出 (DO output)	电压 (Voltage)		DC24V±10%	
	电流 (Current)		40mA	
外置制动电阻推荐 (Recommended external braking resistor)	功率 (Power)		≥80W	
	阻值 (Resistance)		5Ω~10Ω	

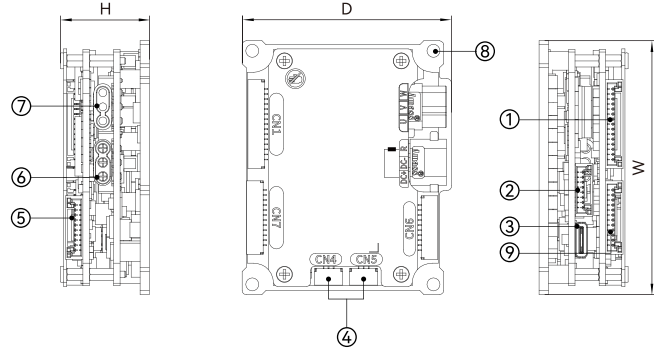
4.2 环境规格 (Environmental requirements)

项目	Item	规格	Specifications
海拔高度	Altitude	≤1000m	≤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
环境空气	Ambient air	无腐蚀性气体、易燃性气体、潮气、油雾、粉尘	No corrosive gases, flammable gases, moisture, oil mist, or dust
耐热等级	Heat resistance class	Class B	Class B
单装使用环境温度	Single installation ambient operating temperature	-5~55°C	-5~55°C
叠装使用环境温度	Stacked installation ambient operating temperature	-5~45°C	-5~45°C
保存环境温度	Storage ambient temperature	-20~65°C	-20~65°C
环境湿度	Ambient humidity	20~80%RH (无结露)	< 20~80%RH (non-condensing)
振动耐受	Vibration resistance	<5.8m/s ² (0.6g) 10~60Hz (共振频率时不可连续使用)	<5.8 m/s ² (0.6g) 10~60 Hz (continuous operation prohibited at resonance frequency)
污染等级	Pollution degree	污染度2	Pollution degree II
冷却方式	Cooling method	自然冷却	Natural air cooling
防护等级	IP rating	IP00	IP00
外壳材质	Enclosure material	阻燃材料	Self-extinguishable

*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.

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



序号(No.)	名称	Name	功能	Function
1	CN1: 功能IO接口	CN1: Functional I/O interface	用户IO接口, 可配置	Configurable user I/O interface
2	CN2: STO安全接口	CN2: STO safety interface	安全扭矩关断	Safe Torque Off (STO)
3	CN3: Type-C接口	CN3: Type-C interface	连接PC进行通讯	Connects to PC for communication
4	CN4/CN5: 485接口	CN4/CN5: 485 interface	485通讯接口	485 Communication interface
5	CN6: 编码器接口	CN6: Encoder interface	连接电机编码器	Connects to motor encoder
6	DC+/DC-: 主电源输入接口	DC+/DC-: Main power supply input interface	DC24V电源输入	DC24V power supply input
	DC+/R: 制动电阻接口	DC+/R: Power brake resistor interface	连接制动电阻	Connects to braking resistor
7	U/V/W: 电机动力输出接口	U/V/W: Motor power output interface	伺服电机连接接口	Servo motor connection interface
8	PE接地接口	PE grounding interface	保护性接地	Protective Grounding
9	CN7: 脉冲输入/分频输出	CN7: Pulse input / Frequency division output	脉冲指令差分输入及分频输出接口	Pulse command differential input and frequency division output interface

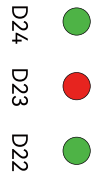
* 注: 仅定制机型支持。

*Note: Only available for customized models.

外形尺寸 (Dimension) : cm			孔径Φ (Hole diameter Φ):mm	重量 (Weight) : g
H	W	D		
21.3	63	52	3.2	64 approx.

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

丝印 (Screen printing)	指示灯含义 (Indicator meaning)	颜色 (Color)	状态 Status	说明 Description
D24	电源 (Power supply)	绿色 (Green)	熄灭 Not lit	电源未接通
			常亮 Lit	电源接通
D23	系统故障 (System error)	红色 (Red)	熄灭 Not lit	无故障发生
			常亮 Lit	发生故障
D22	运行 (Run)	绿色 (Green)	熄灭 Not lit	停止状态
			闪烁 Blinking	正常运行
			常亮 Lit	待机状态

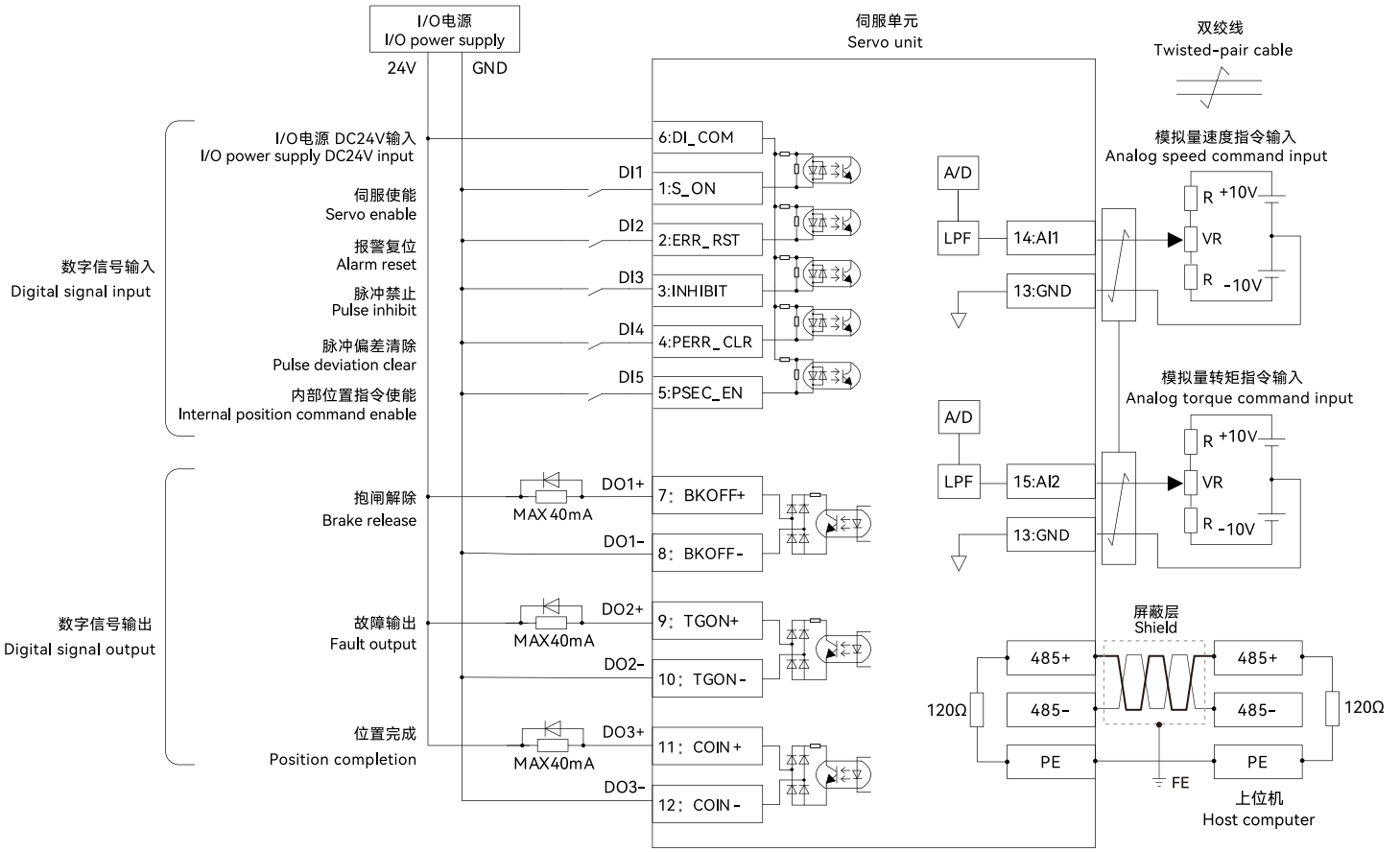


8. 端子及配线说明 (Terminal and wiring description)

CN1(用户I/O)接口说明 (CN1 (User I/O) interface description)				
1	针脚 (Pin)	信号 (Signal)	功能 (Function)	
			1	DI1
2	DI2	报警复位	Alarm reset	
3	DI3	脉冲禁止	Pulse inhibit	
4	DI4	脉冲偏差清除	Pulse deviation clear	
5	DI5	内部位置指令使能	Internal position command enable	
6	DI_COM	数字量输入公共端	DI common terminal	
7	DO1+	抱闸解除	Brake release	
8	DO1-	故障输出	Fault output	
9	DO2+			
10	DO2-	位置完成	Position completion	
11	DO3+			
12	DO3-	模拟量参考地	Analog reference ground	
13	GND	模拟量输入	Analog input	
14	AI1			
15	AI2			

CN4/CN5接口说明 (CN4/CN5 interface description)						
1	针脚 (Pin)	信号 (Signal)	功能 (Function)			
			1	485-	RS485	RS485 communication interface
			2	485+	通讯接口	
3	-	空	N/A			

CN1/CN4/CN5接线图 (CN1/CN4/CN5 wiring diagram)



CN2接口说明 (CN2 interface description)

针脚 (Pin)	信号 (Signal)	功能 (Function)
1	-	-
2	-	-
3	STO1+	关闭功率模块驱动信号, 切断伺服电源 Shut down the power module drive signal, cut off the servo power supply
4	STO1-	
5	STO2+	安全功能信号监视输出 Monitor the output of safety function signals
6	STO2-	
7	STO_OUT+	
8	STO_OUT-	

CN3接口说明 (CN3 interface description)

功能 (Function)
Type-C调试接口 Type-C debug port

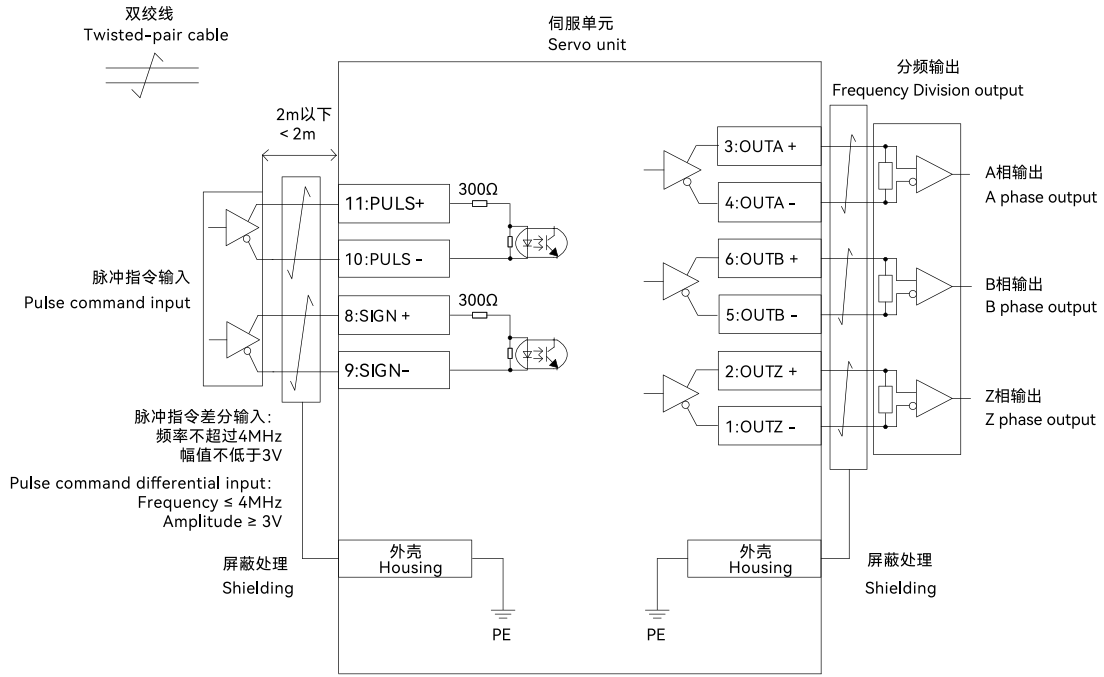
CN6接口说明 (CN6 interface description)

针脚 (Pin)	信号 (Signal)	功能 (Function)
1	VCC	5V电源正极 5V power supply positive pole
2	GND	5V电源负极 5V power supply negative pole
3	DATA-	编码器数据信号输入输出 Encoder data signal I/O
4	DATA+	
5	A-	编码器A相输入 Encoder A phase input
6	A+	编码器B相输入 Encoder B phase input
7	B-	编码器Z相输入 Encoder Z phase input
8	B+	
9	Z-	
10	Z+	

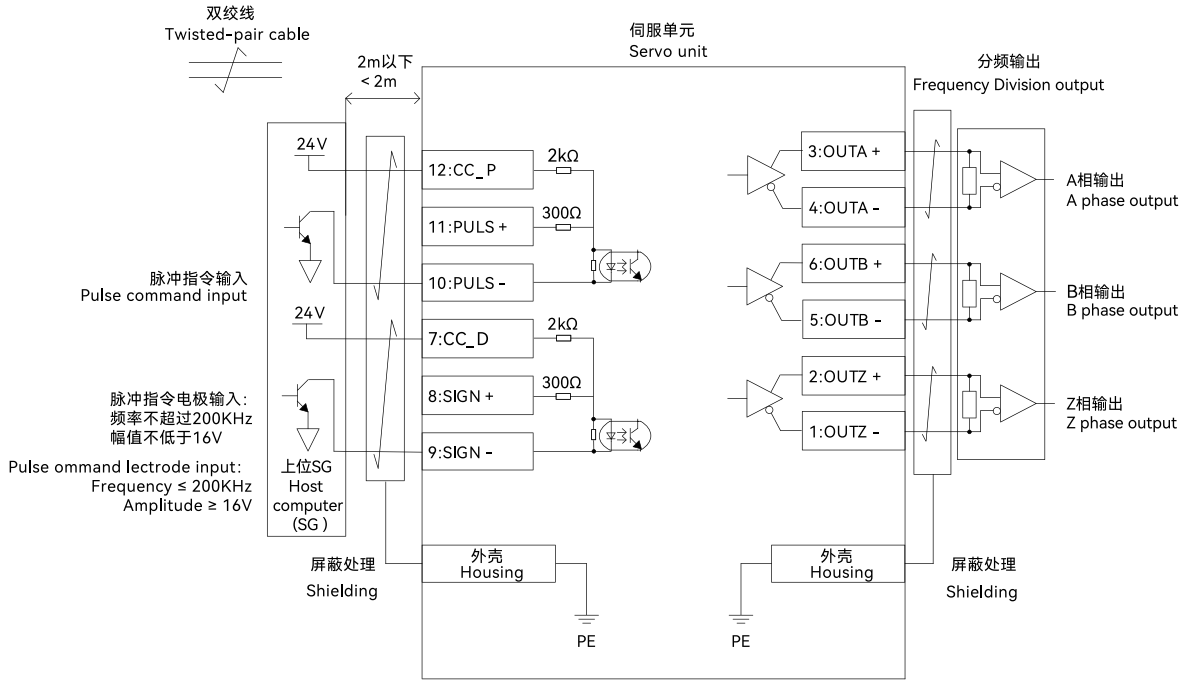
CN7接口说明 (CN7 interface description)

针脚 (Pin)	信号 (Signal)	功能 (Function)
1	OUT_Z-	脉冲输出Z信号- Pulse output Z signal-
2	OUT_Z+	脉冲输出Z信号+ Pulse output Z signal+
3	OUT_A+	脉冲输出A信号+ Pulse output A signal+
4	OUT_A-	脉冲输出A信号- Pulse output A signal-
5	OUT_B-	脉冲输出B信号- Pulse output B signal-
6	OUT_B+	脉冲输出B信号+ Pulse output B signal+
7	CC_D_24V	集电极脉冲指令输入 SIGN 电源 (24V) Collector pulse command input SIGN power supply (24V)
8	SIGN+	脉冲指令SIGN+ Pulse command SIGN+
9	SIGN-	脉冲指令SIGN- Pulse command SIGN-
10	PULS-	脉冲指令PULS- Pulse command PULS-
11	PULS+	脉冲指令PULS+ Pulse command PULS+
12	CC_P_24V	集电极脉冲指令输入 PULS 电源 (24V) Collector pulse command input PULS power supply (24V)

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



脉冲指令24V集电极开路输入 (Pulse command 24V open-collector input)



主回路电源及制动电阻输入接口说明 (Main circuit power supply and braking resistor input interface description)

序号 (No.)	丝印 (Screen printing)	功能 (Function)	
1	DC+	电源输入正	Power supply input+
2	DC-	电源输入负	Power supply input-
3	R	DC+/R制动电阻接口	Power brake resistor interface

电机动力线输出接口说明 (Motor power cable output interface description)

序号 (No.)	丝印 (Screen printing)	功能 (Function)	
1	U	电机U相输出	Motor power U-phase output
2	V	电机V相输出	Motor power V-phase output
3	W	电机W相输出	Motor power W phase output

*注: 1. 电源正负极两端需增加电解电容, 接反会有电容爆炸风险。缺少电容将可能出现报错, 无法正常运行。

2. 接入电源时请接入电解电容 10W-100W 机型请接入 100V/220μF 电解电容; 200W-750W 机型请接入 100V/470μF 电解电容。

3. 配线材料请选用耐热材料, 并与容易受到温度影响的机器和配线隔离。

*Note: 1. Electrolytic capacitors must be added across the positive and negative terminals of the power supply. Reverse connection poses a risk of capacitor explosion. Missing capacitors may lead to error reporting and failure to operate normally.

2. When connecting the power supply, please connect electrolytic capacitors: for 10W-100W models, use a 100V/220μF electrolytic capacitor; for 200W-750W models, use a 100V/470μF electrolytic capacitor.

3. Use heat-resistant materials for wiring, and isolate them from machines and wiring susceptible to temperature effects.