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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、防潮以及免于雷击 / 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 AMD530B 系列步进驱动器 (EtherCAT 总线) 用户手册。
Please refer to the AMD530B series stepper drive (EtherCAT bus) user manual for more detailed information.

2. 命名规则 (Model identification)

AMD 530 B - 2 D 7 81 - 0000
1 2 3 4 5 6 7 8

1	系列名称 (Series name)	4	驱动器相数 (Drive phases)	7	最大电流 (Maximum current)
AMD	单轴系列 (Single-axis series)	2	2相 (2-phase)	81	8.1A
2	子系列 (Sub-series)	5	电源类型 (Power supply type)	8	软件/固件定制代码 (Customized software/firmware Code)
530	通用型步进 (General-purpose stepper)	D	直流电源 (DC power supply)	0000	0~9/A~Z/空 (N/A)
3	控制方式 (Control mode)	6	最大电压 (Maximum voltage)		
B	EC总线 (EtherCAT bus)	7	75V		

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

3.1 通用电气规格 (General electrical specifications)			
项目	Item	规格	Specifications
产品型号	Product model	AMD530B-2D781-0000	
输出电流 (峰值)	Output current (peak current)	1.0~8.1A	1.0~8.1A
匹配电机规格	Compatible motor specifications	28 42 57 60 86 机座	Frame sizes: 28, 42, 57, 60, 86
电源电压	Power supply voltage	DC 24~75V	DC 24~75V
输入信号	Input signal	5个数字量输入，数字量输入可支持：原点、限位、急停	5 digital inputs, supporting origin, limit, and emergency stop
输出信号	Output signal	2个数字量输出，数字量输出可支持：报警输出、抱闸输出	2 digital outputs, supporting alarm output and brake output
报警功能	Alarm function	过流、过压、欠压等	Overcurrent, overvoltage, undervoltage, etc
调试软件	Debugging software	HC_Studio	HC_Studio
3.2 环境规格 (Environmental specifications)			
项目	Item	规格	Specifications
海拔高度	Altitude	≤2000m (1000m~2000m降额使用，降额1%/100m)	≤2000m (for altitudes 1000m ~ 2000m, derate by 1% per 100m).
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	0~50℃	0~50℃
储存温度	Storage temperature	-20~+65℃	-20~+65℃
环境湿度	Ambient humidity	40~90%RH (无结露)	40~90%RH (non-condensing)
振动耐受	Vibration resistance	10~55Hz/0.15mm	10~55Hz/0.15mm
污染等级	Pollution degree	污染度2	Pollution degree 2
冷却方式	Cooling method	自然冷却	Natural air cooling
防护等级	IP rating	IP20	IP20
外壳材质	Enclosure material	阻燃材料	Flame-retardant materials

* 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；为了提高机器的可靠性，请在温度不会急剧变化的场所使用本产品。
*Note: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. To enhance reliability, please operate the equipment in an environment with stable temperatures.

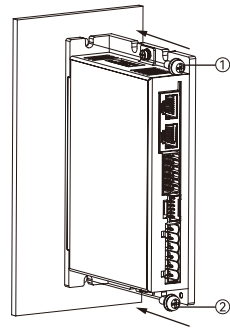
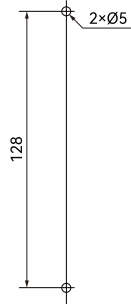
4. 安装说明 (Installation instructions)

4.1 控制柜安装 (Installation within a control cabinet)	
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。并排安装时，建议横向两侧预留30mm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. 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 30 mm on both sides.	* 注：无线缆状态下建议最小间距。 *Note: Recommended minimum clearance in cableless state.

4.2 背板安装 (Backplane mounting)

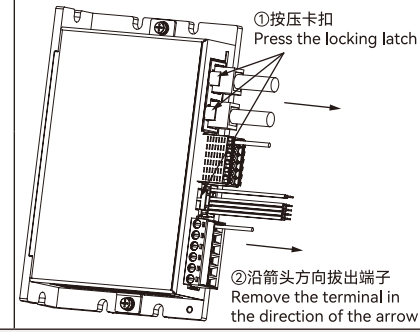
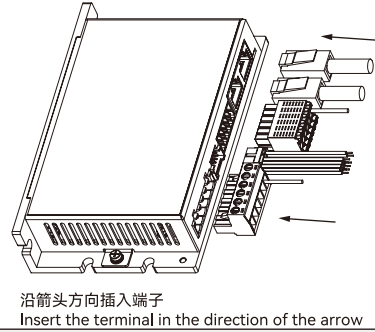
CN	在控制柜背板上按右侧孔位图开孔。安装时，使用 M4 内六角组合螺丝紧固设备，预缩螺丝②，后将设备底部基板卡入螺丝②内，用螺丝①紧固上部为壳体，建议扭矩 1.2N·m。拆卸时，请确保设备断电，使用螺丝刀将螺丝②预松，后拆卸螺丝①，同时用手扶住设备壳体，防止掉落，拆卸螺丝①，然后上提设备即可拆卸。
EN	Drill holes on the control cabinet backplate according to the right-side hole map. During mounting, use M4 hexagon socket combination screws to fasten the equipment: first, pre-tighten screw ②, then snap the bottom base plate of the equipment into screw ②, and use screw ① to fasten the upper housing with a recommended torque of 1.2 N.m. During dismantling, ensure the equipment is powered off first, use a screwdriver to slightly loosen screw ②, then remove screw ① while holding the equipment housing to prevent it from falling, and lift up the equipment after removing screw ①.

单位 (Unit): mm



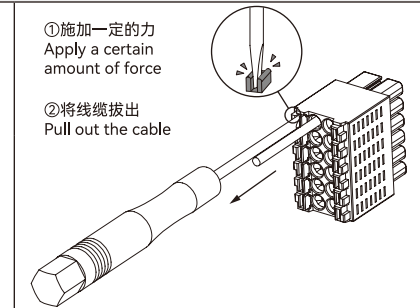
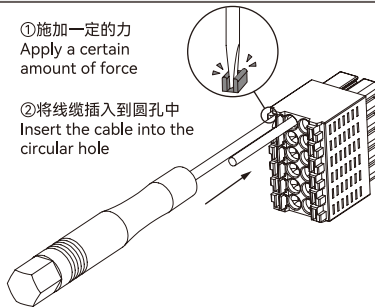
4.3 可拆卸端子拆装 (Removable terminal block mounting and dismantling)

CN	设备外部端子均为插接件形式，参考图示方向进行设备主要接口的插拔。电源 / 电机端子、控制信号端子沿箭头所示方向直接插拔。编码器端子及通讯端子需要按压锁扣插拔。
EN	All external terminals are plug-in type. Refer to the diagram for mounting/dismounting directions of the main interfaces. Power supply/motor terminal and control signal terminal can be directly plugged/unplugged along the arrow direction. Encoder and communication terminals require pressing the locking latch.

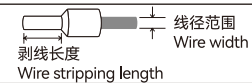


⚠ 4.4 线缆拆装 1 (Cable connecting and disconnecting I)

CN	安装线缆时，将一字螺丝刀垂直插入可拆卸端子压块内，施加一定的力，此时圆孔打开，将准备好的线缆插入到圆孔中，拔出十字螺丝刀，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。端子规格及配线示意图如右图所示。
EN	During connecting, insert the flat-blade screwdriver into the unlocking tab of the terminal with a certain amount of force. Then insert a cable into the circular hole. Gently tug the cable after pulling out the screwdriver. If the cable is secured firmly, then the connection is finished. The reverse is the procedure for unplugging the cable. The terminal specifications and wiring diagram are shown in the right figure.

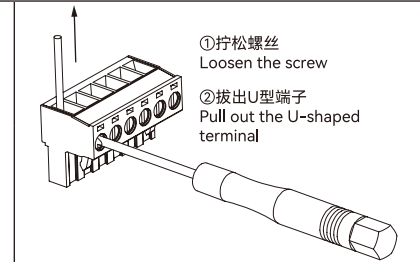
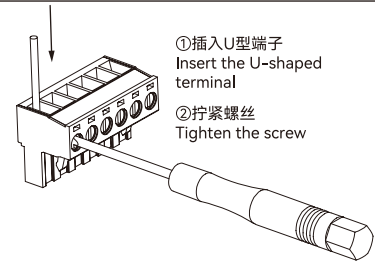


控制器端子 (Terminal)	线径范围: AWG (Wire width)	剥线长度: mm (Wire stripping length)
12Pin通讯端子 (12Pin communication terminal)	24~16	9~10

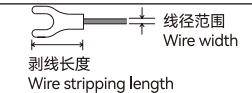


⚠ 4.5 线缆拆装 2 (Cable connecting and disconnecting II)

CN	安装线缆时，使用一字小螺丝刀将接线螺丝处拧松，插入 U 型端子后再拧紧螺丝，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。端子规格及配线示意图如右图所示。
EN	During connecting, loosen the terminal screw with a flathead screwdriver, insert the U-type terminal, then tighten the screw. Pull the cable gently; if it does not loosen, the wiring is complete. The reverse is the procedure for disconnecting the cable. The terminal specifications and wiring diagram are shown in the right figure.

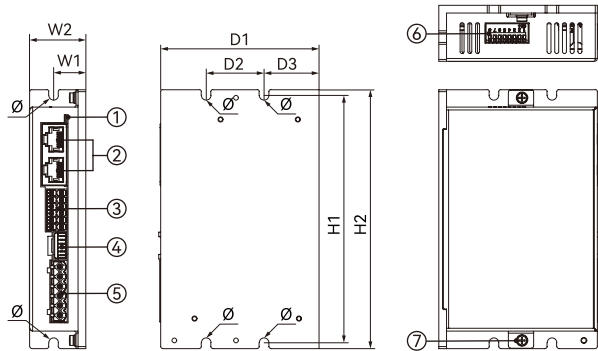


控制器端子 (Terminal)	线径范围: AWG (Wire width)	剥线长度: mm (Wire stripping length)
6Pin电源/电机端子 (6Pin Power supply/Motor terminal)	28~16	8~9



警告: 只能使用 75°C铜导线。
Warning: Use only a copper conductor that is 75° C.
Attention: Utilisez uniquement un conducteur en cuivre à 75° C.

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



型号 (Model)	外形尺寸 (Dimension) : mm								重量 (Weight) : g
	W1	W2	H1	H2	D1	D2	D3	Ø	
AMD530B-2D781-0000	16.7	29.0	128.0	134.0	82.0	30.0	28.5	5.0	250 approx.

序号 (No.)	名称	Name	功能	Function
1	故障/电源指示灯	Fault/Power supply indicator	显示驱动器运行状态	Displays drive operation status
2	RJ45通讯接口	RJ45 communication interface	EtherCAT通讯接口	EtherCAT communication interface
3	用户I/O接口	User I/O interface	数字量I/O, 具体说明请参考第7节: 用户I/O接口说明	Digital I/Os. For specific instructions, please refer to Section 7: User I/O interface description
4	编码器/RS485接口	Encoder/RS485 interface	支持RS485通讯 (注: 开环不支持编码器功能)	Supports RS485 communication (Note: The open-loop system does not support encoder functions.)
5	电源/电机接口	Power supply/Motor interface	电源输入/电机输出接线端子	Power supply input/Motor output terminal blocks
6	功能选择拨码开关接口*	Function selection DIP switch interface*	SW1-SW7拨码分配地址; 开环系统中, SW8保持OFF状态	DIP SW1-SW7: address assignment; SW8 is set to OFF and remains OFF in the open-loop system.
7	接地接口	Grounding interface	电源接地	Power supply grounding

* 注: 拨码开关功能说明

*Note: DIP switch function description

1. 产品从站地址可由主站自由分配或通过拨码开关设置, 由对象字典 0x2151 决定:

1. The slave station address of the product can be freely assigned by the master station or set via a DIP switch, determined by object dictionary 0x2151:

0x2151=0	主站分配地址 (Assigned by master station)
0x2151=1	拨码开关设置 (Set by DIP switch)

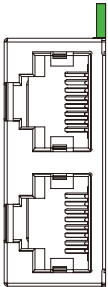
2. SW1~SW7 为从站地址设置拨码, 共七位, 默认地址为 127, 即 2#0111 1111; 从站地址 = SW1*1+ SW2*2+SW3*4+SW4*8+SW5*16+SW6*32+SW7*64;SW8 在开环系统中设置为 OFF。

2. SW1~SW7 are DIP switches for setting the slave station address, with a total of seven bits. The default address is 127, which is 2#0111 1111; Slave station address = SW1*1+ SW2*2+SW3*4+SW4*8+S W5*16+SW6*32+SW7*64; SW8 is set to OFF in the open-loop system.

拨码开关 (DIP switch)	从站地址 (Slave address)	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
	Default [0]	ON	ON	ON	ON	ON	ON	ON	OFF
	1	OFF	ON	ON	ON	ON	ON	ON	
	2	ON	OFF	ON	ON	ON	ON	ON	
	3	OFF	OFF	ON	ON	ON	ON	ON	
	---	---	---	---	---	---	---	---	
	126	ON	OFF	OFF	OFF	OFF	OFF	OFF	
	127	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

6. 指示灯说明 (Indicator description)

丝印 (Screen printing)	指示灯含义 (Indicator meaning)	颜色 (Color)	状态	Status	说明	Description
PWR	运行 (Run)	绿色 (Green)	熄灭	Not lit	未上电	Power off
			常亮	Lit	电源正常	Power on
FLT	故障 (Error)	红色 (Red)	熄灭	Not lit	无故障	No error
			闪 1 下	Blink once	过流	Overcurrent
			闪 2 下	Blink twice	过压	Overvoltage
			闪 3 下	Blink three times	欠压	Undervoltage
			闪 4 下	Blink four times	通讯掉线	Communication disconnection
			闪 6 下	Blink six times	回原故障	Homing fault
			闪 7 下	Blink seven times	位置超差故障	Position deviation fault
L/A IN	EtherCAT 通讯输入 (EtherCAT communication input)	绿色 (Green)	熄灭	Not lit	未建立物理连接	No physical connection
			闪烁	Blinking	已建立物理连接	Physical connection established
			常亮	Lit	已建立物理连接且有通讯数据	Physical connection established with communication data
L/A OUT	EtherCAT 通讯输出 (EtherCAT communication output)	绿色 (Green)	熄灭	Not lit	未建立物理连接	No physical connection
			闪烁	Blinking	已建立物理连接	Physical connection established
			常亮	Lit	已建立物理连接且有通讯数据	Physical connection established with communication data



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

用户I/O接口说明 (User I/O interface description)

		引脚 (Pin)	说明	Description	接线 (Wiring)	
	COMO		数字输出信号公共地, 支持NPN接法	Common ground for digital output signals (supporting NPN wiring)		
	COMI		数字信号输入公共端, 支持NPN接法和PNP接法	Common terminal for digital input signals (supporting NPN/PNP wiring)		
	NC		空网络	Empty network		
	DI1		数字输入信号, 共COMI端口, 12~30VDC	Digital input signals (common COMI port, 12~30VDC)		
	DI2					
	DI3					
	DI4					
	DI5					
	DO1+		数字输出信号, 共COMO, 最大30VDC	Digital output signals (common COMO port, 30VDC max.)		
	DO2+					

编码器/RS485接口说明 (Encoder/RS485 interface description)

引脚 (Pin)	颜色 (Color)	说明 (Description)	引脚 (Pin)	颜色 (Color)	说明 (Description)
1	灰 (Gray)	RS485+	2	白 (White)	RS485-
3	/	NC*	4	/	NC*
5	蓝 (Blue)	ENCZ+	6	棕 (Brown)	ENCZ-
7	黄 (Yellow)	ENCB+	8	紫 (Purple)	ENCB-
9	红 (Red)	ENCA+	10	橙 (Orange)	ENCA-
11	绿 (Green)	VCC5V	12	黑 (Black)	GND

* 注: NC 表示空信号; 引脚 5-12 为闭环产品使用, 开环暂无对应功能。
*Note: NC indicates an empty signal; Pins 5-12 are used for closed-loop products, with no corresponding functions in open-loop systems.

电源/电机接口说明 (Power supply/Motor interface description)

引脚 (Pin)	说明	Description
A+	电机线组 A+	Motor wire set A+
A-	电机线组 A-	Motor wire set A-
B+	电机线组 B+	Motor wire set B+
B-	电机线组 B-	Motor wire set B-
GND	电源地	Power supply ground
+VDC	电源正输入端	Power supply positive input

系统接线图 (System wiring diagram)

