

iDCB Series

iDCB 系列

Elevator Door Controller

电梯门控制器

User Manual

用户手册

ElevatorCtrl.com
iTopEasy.com

Version: **V4.1.0.11** **2026/01/19 Y/M/D**
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产品特点 Product Features

- 同步/异步电机一体化控制(可选) 可选支持异步电机机加编码器或者异步电机加 4 个开关信号

Optional integrated synchronous and asynchronous control. Optional supports asynchronous motor with encoder or asynchronous motor with four switch signals.

- 支持普通增量编码器的永磁同步电机闭环矢量控制

Supports closed-loop vector control for permanent magnet synchronous motors with standard incremental encoders

- 关门受阻，自动开门，保证使用安全，受阻扭矩可调节

Automatic door opening when closing is obstructed, ensuring safety, Resistance torque is adjustable.

- 支持速度控制、距离控制两种模式

Supports both speed control and distance control modes

- 距离控制时，自动学习门宽，易用且好用的 App 直接调试和配置，高端操控界面

Automatic door width learning in distance control mode, with an easy-to-use App for direct debugging and configuration. with a high-end control interface

- 8 个数字输入端子、3 个常开常闭输出继电器，输入输出功能均可用户编辑

8 digital input terminals, 3 normally open/normally closed output relays, with user-editable input and output functions

- 超薄设计，仅有 2.9 cm 厚，支持安装在门机内部

Ultra-thin design, only 2.9 cm thick, Supports installation within the door operator machine.

- IP20 防护，零噪音运行，支持高达 300V AC 电源输入而不损坏，可跟随母线电压波动自动调整输出电压

IP20 protection, zero-noise operation, Supports up to 300V AC power input without damage. Automatically adjusts the output voltage according to bus voltage fluctuations.

- 支持 CAN 总线通讯控制，高效安全

Supports CAN bus communication control, efficient and secure

- 一键调试，速度曲线自动生成，简单易用，可以使用 App 或者小程序进行快速配置和调试

One-click debugging with automatic speed curve generation, simple and easy to use. Can be quickly configured and debugged via App or mini-program.

- 门刀距离学习，运行曲线更加精确与平滑

Door vane distance learning for more precise and smooth operation curves

- 过/欠压保护、过流保护、相间短路保护、断电防夹保护、同步电机封星功能

Over/under voltage protection, OverCurrent protection, phase-to-phase short circuit protection, power-off anti-pinch protection, Synchronous motor short-circuit braking function

- 智能实时调整输出保持力矩，既能保维持门系统的位置不溜车，使电机更节能降温

It intelligently adjusts the holding torque in real-time. This ensures the door position without drifting, while also making the system more energy-efficient and reducing motor operating temperature.

- 门系统惯量识别，自动判断运行动能、摩擦力、自闭力等，约束门机驱动器的输出

Door system inertia recognition, automatically determining operating kinetic energy, friction, self-closing force, etc., to constrain the output of the door machine drive.

- 自动识别电机和编码器相序，根据电机相序，自动适配编码器相序，无需更改编码器接线
- 运行时间统计和开关门次数统计

Automatically identifies the motor and encoder phase sequences, and adapts the encoder phase sequence according to the motor phase sequence without requiring encoder wiring changes.

Operating time statistics and door opening/closing count statistics.

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第一章 产品信息 Chapter 1 Product Information

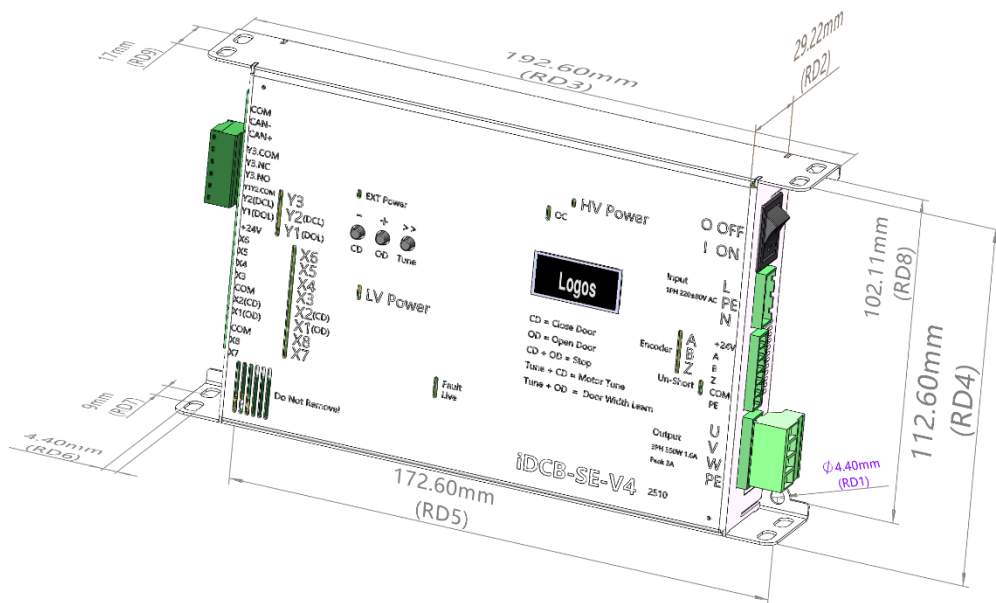
1.1 技术规格 Technical Data

电气规格 Electrical Specification			
输入电压范围 Input Voltage Range	单相 Single phase: 220V±80V AC		
输出电压 Output Voltage	0V - 输入电压 0V - Input voltage		
输出频率 Output Frequency	0.00 - 99.99Hz		
型号功能选型 Model Function Selection			
iDCB-Std	可驱动交流异步电机和永磁同步电机 Can drive AC Asyn. motor and permanent magnet Syn. motor		
iDCB-SE	针对主流新梯门机优化的,可驱动永磁同步电机 Optimized for mainstream new elevator door systems,Can drive permanent magnet Syn. motor		
iDCB-Pro	可驱动交流异步电机和永磁同步电机,配备彩色液晶显示屏,全程智能运行速度曲线规划及 AI 故障预测 Can drive AC Asyn. motor and permanent magnet Syn. Motor, Equipped with a color LCD screen, full-range intelligent motion profile planning, and AI-based fault prediction.		
控制特性 Control Characteristic			
控制方式 Control Mode	闭环矢量控制 FVC	开环矢量控制 SVC	磁通矢量控制 Flux Vector Control
调速范围 Speed Range	1:1000	1:100	1:50
调速精度 Speed Accuracy	± 0.05%	± 0.5%	± 0.5%
启动转矩 Starting Torque	180%额定转矩@0Hz 180% rated torque @ 0Hz	180%额定转@0.5Hz 180% rated torque @ 0.5Hz	150%额定转@1Hz 150% rated torque @ 1Hz
分辨率 Resolution	频率: 0.01Hz; 电流: 0.01A Frequency: 0.01Hz; Current: 0.01A		
功能 Function			
主要功能 Main Function	控制交流永磁同步电机时, 支持空载和带载方式调谐电机参数和编码器零点位置 When controlling AC PMSM, it supports no-load/load tuning and encoder zero position of motor parameter 自动识别电机和编码器相序 Automatically identifies the motor and encoder phase sequences 支持配置普通 ABZ 编码器, 实现交流永磁同步电机的闭环矢量控制		

	Support normal ABZ encoder, achieve closed loop vector control of AC PMSM 支持接收开路集电极或推挽类型的编码器输入信号 Support receiving open collector or push-pull encoder input signal Distance control and speed control 具有距离控制、速度控制两种控制方式 Distance control and speed control 支持门宽自学习、自动循环演示、遇阻自动识别 Support door width self-learning, auto demo loop, resistance auto recognition	
保护功能 Protection	过载保护、过压保护、欠压保护、过流保护、相间短路保护等 Overload protection, overvoltage protection, under-voltage protection, overcurrent protection, phase-to-phase short circuit protection, etc.	
输入输出 Input and Output		
电源输出 Power Supply	最大输出电流 500mA Max. output current is 500mA	
数字输入 Digital Input	8 个输入口,X1 - X8, X1 默认为 OD, X2 默认为 CD,输入阻抗 4.7kΩ, NPN 信号输入,低电平有效 8 input terminals, X1-X8, with X1 defaulting to OD and X2 defaulting to CD,Input impedance: 4.7kΩ,NPN signal input, active low	
数字输出 Digital Output	3 个输出口, Y1 - Y3, Y1 默认为 DOL, Y2 默认为 DCL 3 output terminals, Y1-Y3, with Y1 defaulting to DOL and Y2 defaulting to DCL.	Y1,Y1 容量 Capacity: 30VDC/100mA
		Y3 继电器触点容量 Relay contact capacity: 10A@250VAC 5A@30VDC
编码器类型 Encoder Type	ABZ 编码器(NPN) ABZ encoder(NPN)	
通讯 Communication	CAN+, CAN-,与电梯系统进行 CAN 通讯 CAN+, CAN-,CAN communication with elevator control system	
操作与显示 Operation and Display		
设备面板操作 Device Panel Operation	3 个按键,可以进行电机调谐,门宽学习,急停/停机,开门,关门 Three buttons for motor tuning, door width learning, and emergency stop/stop, open and close.	
手机 App 设置 Mobile Phone App Setting	使用蓝牙 BLE4.0 及以上 支持安卓 Android 9 及以上 支持 iOS 18 及以上 支持微信小程序 Supports Bluetooth BLE 4.0 or above Compatible with Android 9 or later Compatible with iOS 18 or later Supports WeChat Mini Program	
OTA 无线空中升级软件 OTA Wireless Over-The-Air	使用蓝牙 BLE4.0 及以上,支持安卓 Android 9 及以上,进行无线升级 Supports wireless upgrades via Bluetooth BLE 4.0 or higher, compatible with Android 9 and above.	

Software Upgrade	
设备环境 Device Environment	
工作环境温度 Running Temperature	-20 - +50°C 安装在通风良好的场所，可提高控制器运行的可靠性 Installing in well-ventilated places can improve the running reliability of the door controller.
设备内部允许温度 Permitted Internal Device Temperature	-20 - +100°C
存贮环境温度 Storage Temperature	-20 - +60°C
运行和储存环境 Running and Storage Environment	室内，避免阳光直射，无腐蚀性气体、可燃性气体、油雾、水蒸汽、滴水或盐份等，湿度<95%RH， 无水珠凝结 Indoor, avoiding direct sunlight, No corrosive, flammable gases, oil mist, water vaper, dripping or salt etc, relative humidity <95% (non-condensing)
防护等级 Protection Class	IP20
污染等级 Pollution Level	2 (干性，非导电灰尘污染) 2 (dry, non conducting dust pollution)

1.2 尺寸与安装 Size&Install



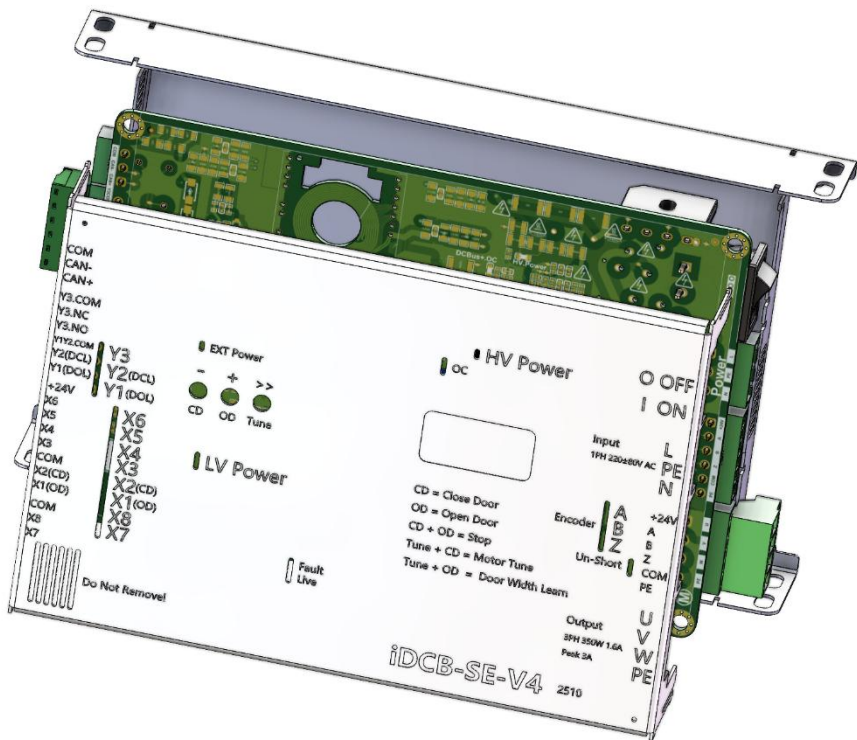
注意：

打开包装发现控制器部件不全或受损时，请不要安装。

Note:

Do not install if controller is incomplete or impaired upon unpacking.

1.3 产品内部结构示意图 Product Internal Structure Diagram



本产品采用最新技术，配备一体化制造的全金属外壳以提升散热效能。正常工作时,金属外壳触摸会有温热感，这属于高效导热散热的正常现象(同样温度下,由于金属的导热性远高于塑料,所以人体对金属温度体感比较塑料高很多)。产品内部设有精密温控系统，只要软件监测的功率核心温度未超过 90℃ 的设计阈值，都处于正常工作状态。

This product use the latest technology and uses an integrally manufactured all-metal casing to enhance heat dissipation efficiency. During normal operation, the metal casing may feel warm to the touch, which is a normal phenomenon resulting from efficient heat conduction and dissipation(Under the same temperature, because the thermal conductivity of metal is much higher than of plastic, the perceived temperature of metal feels much hotter to the human touch compared to plastic.). The product is equipped with a precise temperature control system. As long as the software-monitored core temperature does not exceed the design threshold of 90℃, the device remains in a normal and safe operational state.

第二章 电气安装 Chapter 2 Electrical Installation

2.1 注意事项 Important Notes

- 为提供输入侧过电流保护和停电维护的方便，控制器应通过空气开关 MCCB 或熔断器与电源相连。
To facilitate the input side over-current protection and outage maintenance, connect controller with supply via the MCCB or fuse.
- 控制器对地存在大于 3mA 的漏电流，具体数值由使用条件决定，为保证安全，控制器和电机必须确保可靠接地，并建议用户安装 Type B 型的漏电保护装置 (ELCB/RCD)。
There is more than 3mA leakage current in controller grounding, depending on the operating conditions. To ensure safety, The controller and motor must connect to ground wire reliably. It must use type B mode when utilize ground leakage protection devices (ELCB/RCD)
- 控制器带电情况下，人体不要触摸控制器接线端子。控制器的功率端子切勿与产品外壳连接，功率端子之间切勿短路。
Do not touch the wire terminals of controller when it is charged. The main circuit terminals are neither allowed connected to the enclosure nor short-circuiting.
- 功率端子请可靠紧固，端子配线的金属裸露部分，必须用绝缘胶带包扎好。
Connect the terminals firmly. The bare portions of the power cables must be bound with insulation tapes.
- 禁止采用接触器通断的方法来控制控制器的启停。
Do not start or stop controller by connect/disconnect the contactor.
- 禁止将输入电源线接到控制器的输出 U / V / W 端子上。
Do not connect the input power to U/V/W terminals of controller.
- 请确认交流输入电源电压与控制器的额定输入电压是否一致。
Be sure the AC input power supply voltage is the same as rated input current of controller
- 警告特别注意不要接错 PE 和 L 或 N, 否则有触电危险或者导致跳闸保护 ⚠️,
WARNING: Connecting PE to L or N will result in an electric shock hazard or tripping of protection devices ⚠️.

2.2 接口说明

2.2.1 电源开关 Power Switch

为便于调试和维护，控制器设计了电源开关，需要注意的是,此开关仅断开一根电源线! 此开关关闭后，输入 220V 接线端子处可能还有高电压，在外部供电电源未断开前，严禁触摸 220V 接线端子和插拔 220V 端子和严禁拆解控制器，否则有触电的危险! ⚠️

To enhance the convenience of debugging and maintenance, A power switch has been designed for the controller. It must be noted that this switch disconnects only one power line! After this switch is turned off, high voltage may still be present at the 220V input terminals. Unless the external power supply is disconnected, it is strictly prohibited to touch the 220V terminals, unplug the 220V connectors, or disassemble the controller, Otherwise, there is a risk of electric shock! ⚠️

第三章 应用和调试 Chapter 3 Application & Debugging

3.1 调试和使用的要点提示 Key Points for Debugging and Use

1. 调谐之前,默认需至少拔掉 X1(开门),X2(关门) 信号 **输入端子**,或者 修改 命令方式选择为 [面板/App 调试模式] (路径: [配置参数] > [基本参数] > [命令方式选择])
2. 控制器出厂默认为[端子控制]模式.如果在调谐和门宽学习未完成之前输入了 X1,X2 信号,将会直接启动运行而报错 (如 编码器故障,过流保护等),因为此时电机的初始角度这些都没有学习到或者未修改,此时是不能运行的.
3. 部分关键参数,必须要在电机处于已停机时,或按 停机键 先停机后才能修改.可以在 App 上按 停机键 或者在控制器上同时按下**组合键 CD+OD 键**停机.
4. 选 [循环开关门演示运行]后,自己就会开始反复来回运动了, 演示模式时, 电机不在两端时, 按 STOP 可以停机. 切换到演示模式后,为方便实际测试和演示使用,默认通电后 就会自动启动运行,请注意安全! ⚠
5. 调谐和门宽学习之前,请检查和确认控制器 确认当前没有报故障(查看[当前故障状态])这项数据应 显示为 无故障)才能正常进行操作, 否则不会响应.请在检查接线和解决故障后,并清除控制器的故障标志(.断电重启)再继续.
6. 开关门的参数您需要根据现场门机情况调整下,默认参数可能不是完全适合您的 门机,如果感觉门机运行是比较激进的,加减速时间比较小,可以稍微逐步调大些.
7. [配置参数]中标注 ▲ 或 ★ 的是比较重要的参数,参数非常重要不能填错或者敏感参数(修改后效果变化会比较明显,请逐步微调).
8. **使用 App 时, 请确保手机蓝牙与定位服务处于开启状态! 否则将无法搜索或连接设备. 首次启动微信小程序或 App 时, 手机将提示获取蓝牙及定位权限, 请务必选择“允许”. 若操作中误选其他选项, 可在微信小程序设置或手机系统设置中重新开启相应权限.**
9. 同一台控制器,同一时刻只能被一个手机独占搜索和连接,如搜索不到请确保关闭其他手机的 APP 后重试.
10. Y1,Y2 指示灯:
 - a. 如果 Y1,Y2 没有接线的时候, LED 灯均不亮;
 - b. Y1,Y2 接好线后, LED 灯亮, 表示是常开状态, 没有输出, 跟公共端没有接通. LED 灯灭, 表示闭合状态,此时有输出, 跟公共端是闭合接通的.

1. Before tuning, please unplug the X1 (open door) and X2 (close door) signal **input terminals** by default at least, or change the Command Model Selection to [Panel/App Debug Mode] (Path: [Config] > [Basic Parameters] > [Command Model Selection]).
2. Since the controller defaults to [Terminal Control] mode when it leaves the factory, if X1 or X2 signals are input before tuning and door width learning are completed, the motor will start directly and may report errors (such as encoder fault, overcurrent protection, etc.). This is because the motor's initial angle and other parameters have not been learned or modified yet, and operation is not possible at this stage.

3. Some key parameters can only be modified when the motor is stopped or after pressing the STOP key to halt it first. You can press the STOP key in the App or press the key combination CD+OD on the controller to stop the motor.
4. After selecting [Cycle Open/Close Demo Show], the motor will automatically start moving back and forth repeatedly. In demo mode, if the motor is not at either end, pressing STOP can halt it. After switching to demo mode, for the convenience of actual testing and demonstration, the motor will automatically start running after power-on. Please pay attention to safety! ⚠️
5. Before tuning and door width learning, check and confirm that the controller is not reporting any faults (the [Current Fault Status] data should display "No Fault") to ensure normal operation. Otherwise, the system will not respond. Please check the wiring, resolve any faults, and clear the controller's fault flag (by power cycling) before proceeding.
6. The open/close parameters need to be adjusted according to the actual door mechanism on site. The default parameters may not be entirely suitable for your door mechanism. If the door mechanism operates too aggressively or the acceleration/deceleration times are too short, you can gradually increase these values.
7. Parameters marked with ⚠️ or ⭐ in [Config] are important. These parameters are critical and must not be entered incorrectly, or they are sensitive parameters (modifying them will produce noticeable effects, so please adjust them gradually and finely).
8. **When using the App, ensure that your phone's Bluetooth and location services are turned on! Otherwise, the device cannot be searched for or connected. When you first launch the Wechat Mini-program or App, your phone will prompt you to grant permissions for Bluetooth and location access. Please be sure to select "Allow." If you accidentally choose the wrong option, you can enable the permissions in the settings of the Wechat Mini-program or the mobile system Setting of App.**
9. **A single controller can only be exclusively searched for and connected by one phone at a time.** If the device cannot be found, ensure that the App on other phones is closed and try again.
10. Y1, Y2 Indicator Lights:
 - a. If Y1 and Y2 are not wired, the LED lights remain off.
 - b. Once Y1 and Y2 are properly wired, the LED lights turn on, indicating a normally open state (no output, disconnected from the common terminal). When the LED lights are off, it indicates a closed state (output active, connected to the common terminal).

3.2 同步电机 和 端子控制模式 的安装使用流程图 Installation & Usage

Flowchart for Sync. Motor With Terminal Control Mode

操作 Operation	参数名 Parameter Name	默认值 Default Value	设置值 Setting Value
先不要连接 X1,X2 端子 Do not Connect X1,X2 Port	调谐之前,默认需至少拔掉 X1(开门),X2(关门) 信号 输入端子,或者 修改 命令方式选择为 [面板/App 调试模式]. Before tuning, please unplug the X1 (open door) and X2 (close door) signal input terminals by default at least, or change the Command Model Selection to [Panel/App Debug Mode].		
↓			
接好 电机和编码器线 Connect the motor and encoder cables.	根据控制器上印刷的丝印和线束上标识,对应接好线 Connect the wires correctly by matching the silkscreen on the controller with the markings on the wire harness.		
↓			
接好 电源线 L,PE,N Connect the power cables L, PE, N correctly.	警告:特别注意不要接错 PE 和 L 或 N,否则有触电危险或者导致跳闸保护 ⚠️,请再次检查后才能通电 WARNING: Connecting PE to L or N will result in an electric shock hazard or tripping of protection devices ⚠️ .A mandatory re-check is required before power on the system.		
↓			
通电 Power On	通电并打开控制器的电源开关 Apply power, then turn on the controller's power switch		
↓			
打开 App 并搜索连接控制器 Open the App and search for the controller to connect.	App 使用时需要先打开手机的蓝牙和定位!否则无法搜索和连接设备! 同一台控制器,同一时刻只能被一个手机独占搜索和连接.如搜索不到请确保关闭其他手机的 APP 后重试. When using the App, ensure that your phone's Bluetooth and location services are turned on! Otherwise, the device cannot be searched for or connected. A single controller can only be exclusively searched for and connected by one phone at a time. If the device cannot be found, ensure that the App on other phones is closed and try again.		
↓			
命令方式选择	[配置参数] > [基本参数] > [命令方式选择]	[端子控制方式 (自动)]	[端子控制方式 (自动)]
		[Terminal Control Mode (Automatic)]	[Terminal Control Mode (Automatic)]
	>> 可选 [面板/APP 调试控制 (手动)] 或 [端子控制方式 (自动)]		

	[Config] > [Basic Parameters] > [Command Model Selection]		
	>> Options Select [Panel/APP Debug Control (Manual)] or [Terminal Control Mode (Automatic)]		
↓			
输入电机和编码器参数 Enter motor & encoder parameters.	根据电机铭牌进行设置 Set parameters based on the motor nameplate.		电机铭牌值 Motor Nameplate Values
↓	[电机额定功率] [Motor Rated Power]	50W	电机铭牌值 Motor Nameplate Values
	[电机额定电压] [Motor Rated Voltage]	50V	电机铭牌值 Motor Nameplate Values
	[电机额定电流] ⚠ [Motor Rated Current] ⚠	1.1A	电机铭牌值 Motor Nameplate Values
	[电机额定频率] ⚠ [Motor Rated Frequency] ⚠	24.00Hz	电机铭牌值 Motor Nameplate Values
	[电机额定转速] ⚠ [Motor Rated Speed] ⚠	180RPM	电机铭牌值 Motor Nameplate Values
	[编码器每转脉冲数] ⚠ [Encoder Pulses Per Revolution] ⚠	1024PPR	电机铭牌值 Motor Nameplate Values
电机调谐 Motor Tune	可以在 App 上点[调谐学习] > [执行 电机调谐(Tune)] 或者在控制器上同时按下组合键 Tune+CD 键. In the app, go to [Tune Learn] > [Execute Motor Tune].Or press the Tune + CD keys together on the controller.		
↓	如果没有报错,继续下一步 If no errors are reported, proceed to the next step.		
门宽学习 Door Width	可以在 App 上点[调谐学习] > [执行 井道门宽学习] 或者在控制器上同时按下组合键		

Learn	Tune+OD 键。 In the app, go to [Tune Learn] > [Execute Hoistway Door Width Learning].Or press the Tune + OD keys together on the controller.		
↓	如果没有报错,继续下一步 If no errors are reported, proceed to the next step.		
配置 X 和 Y 端口功能 Configure the functions of X and Y ports.	[配置参数] > [输入输出端口功能参数] > [??输入端口功能] [Config] > [Input/Output Port Function Parameters] > [?? Input Port Function]		
	[X1 输入端口功能] [X1 Input Port Function]	开门命令-常开 Door Open Cmd (NO)	根据电梯控制板设置 Configure settings according to the elevator control board.
	[X2 输入端口功能] [X2 Input Port Function]	关门命令-常开 Door Close Cmd (NO)	根据电梯控制板设置 Configure settings according to the elevator control board.
	[X3 输入端口功能] [X3 Input Port Function]	慢速输入-常开 Slow Speed Input (NO)	可以配置 Can Config.
	[X4 输入端口功能] [X4 Input Port Function]	未使用 Not Used	可以配置 Can Config.
	[X5 输入端口功能] [X5 Input Port Function]	未使用 Not Used	可以配置 Can Config.
	[X6 输入端口功能] [X6 Input Port Function]	未使用 Not Used	可以配置 Can Config.
	[X7 输入端口功能] [X7 Input Port Function]	未使用 Not Used	可以配置 Can Config.
	[X8 输入端口功能] [X8 Input Port Function]	未使用 Not Used	可以配置 Can Config.
	[Y1 输出端口功能] [Y1 Output Port Function]	开门到位 0-常开 OD Pos.0 - NO	根据电梯控制板设置 Configure settings according to the elevator control board
	[Y2 输出端口功能] [Y2 Output Port Function]	关门到位 0-常开 CD Pos.0 - NO	根据电梯控制板设置 Configure settings according to the

调试开关门减速点、开关门速度、加减速时间 Adjust the door open/close deceleration points, open/close speeds, acceleration/deceleration times.			elevator control board
	[Y3 输出端口功能]	门位置输出-常开	可以配置
	[Y3 Output Port Function]	Door Pos. Output - NO	Can Config.
	[配置参数] > [开门速度和时间参数]		
	[Config] > [Door Opening Speed and Time Parameters]		
↓	[配置参数] > [关门速度和时间参数]		
	[Config] > [Door Closing Speed and Time Parameters]		
	[配置参数] > [开关门力矩和遇阻参数]		
	[Config] > [OD/CD Torque and Obstruction Parameters]		
	[配置参数] > [开关门距离和减速点和到位/限位参数]		
调试结束 Debug End	[Config] > [OD/CD Distance, Deceleration Point and Limit Parameters]		

3.3 电机参数调谐 Motor Parameter Auto Tune

控制器采用高性能矢量控制技术来控制门电机的运行，在控制电机运转前，需进行电机参数调谐，以获取正确的电机参数来保证良好的运行控制效果。

Controller adopts high performance vector control technology to control the door motor. Before controlling the motor, start motor parameter auto-tuning to achieve correct motor parameter. That can ensure fine running efficiency

3.3.1 同步电机调谐 Syn. Motor Auto Tune

1. 同步电机调谐时，必须先接好编码器，旋转电机或者推动门时，确认能监控到门开启位置百分比变化或编码器脉冲变化。

Confirm the encoder wiring is correct, When the motor rotates or the door is pushed manually, ensure that the change in the door opening position percentage or encoder pulse can be monitored.

2. 同步电机调谐**无需**卸下皮带，不用脱离负载。

Syn. Motor **Not need Remove the belt to free of load** in Tune.

3. 根据电机铭牌设置电机额定功率、额定电流、额定频率、额定转速，若不卸下皮带，应**手动把门移开到 10%~50% 左右的状态**，调谐时，确认门往开门方向移动。

Set motor parameters according to the motor nameplate: Rated power, Rated current, Rated frequency, Rated RPM. Without removing the belt, **The door should be manually moved to a position approximately 10% to 50% open.** Confirm that the door moves in the door opening direction, and the door automatically stops moving when the auto-tuning is over

4. 设置编码器参数。

Set encoder parameter

5. 开始调谐,如卸下皮带,确认电机轴往开门方向旋转。

Start Tuning,Remove the belt,Confirm that the motor shaft rotates in the direction of opening the door.

如不卸下皮带,确认门往开门方向移动,若往关门方向旋转,请将控制器与电机接线中的任意两相接线调换,并重新进行电机参数调谐。调谐结束时,门自动停止移动。

Without removing the belt, Confirm that the door moves in the door opening direction. If the motor shaft rotates in the closing direction,After the self-learning, Switch the wiring of any two phases of terminals U/V/W to change the run direction.And the door automatically stops moving when the auto-tuning is over.

结束后,检查存储的磁极角度。

After finishing, check magnetic pole position angle record

6. 重新进行第5步,比较得到的磁极角度。如果相差小于5°,表示调谐成功;否则请再次进行参数调谐。

Repeat step 5, compare with the magnetic pole position angle, the difference should be less than 5°. Otherwise, user need to find the cause and repeat the auto-tuning.

3.3.2 异步电机调谐 Asyn. Motor Auto Tune

1. 使用闭环距离控制或磁通矢量控制或开环距离控制。

Use closed loop distance control or flux vector control or open-loop distance control.

2. 磁通矢量控制无需调谐,其他模式推荐异步电机卸下皮带,脱离负载。

Asyn. Motor recommend Remove the belt to free of load in Tune,except flux vector control.

3. 根据电机铭牌设置电机额定功率、额定电流、额定频率、额定转速、减速比。

Set motor parameters according to the motor nameplate: Rated power, Rated current, Rated frequency, Rated RPM, Reduction ratio.

4. 开始调谐,观察电机轴应往开门方向旋转。若往关门方向旋转,应在调谐结束后,将控制器的U/V/W端子中的任意两相接线调换,不需要重新进行电机参数调谐。

Start Tuning,During tune, make sure the motor shaft rotates towards the door opening direction. If the motor shaft rotates in the closing direction,After the self-learning, Switch the wiring of any two phases of terminals U/V/W to change the run direction, don't need tune again.

3.4 距离控制 Distance Control

距离控制必须使用编码器来检测门位置。

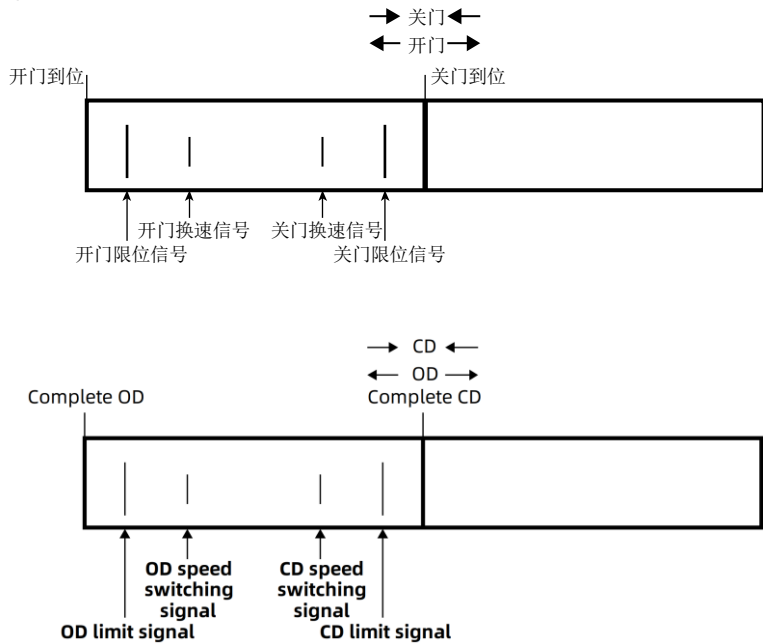
Distance control must use encoder to measure door position.

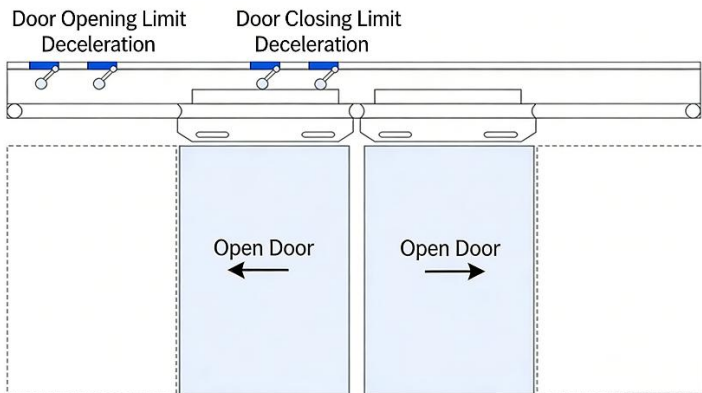
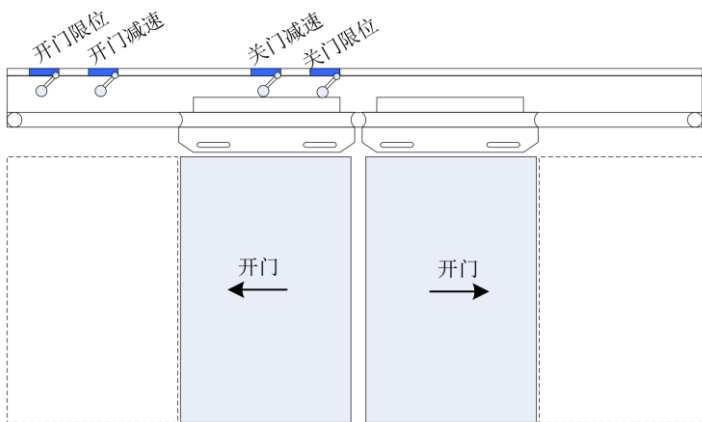
3.5 速度控制 Speed Control

控制器可以实现速度控制，只需外配 4 个行程开关，不再需要外配编码器来检测门位置。各个行程开关（信号接点）的安装位置如图所示。通过减速点开关信号进行减速处理通过判断到位/限位开关信号进行到位/限位停止处理。

With four external limit switches, controller can realize speed control, no longer need external encoder to detect the door position. The installation position of each limit switch (signal connection) are shown in the figure below.

Deceleration is performed based on the signal from the deceleration point switch, and the limit stop is processed by detecting the signal from the limit switch.





3.5.1 主要调试步骤:

Main Steps:

1. 将开门到位/限位、开门减速/换速、关门到位/限位、关门减速/换速 信号 分别接入端子 X3,X4,X5,X6, 公共端接到 COM

Connect OD Limit, OD Deceleration/ Speed Switch, CD Limit, CD Deceleration/ Speed Switch Signal to X3,X4,X5,X6 terminal, and connect common terminal to COM.

2. 然后接通电源并打开控制器电源开关。Then turn on the power supply switch

3. 观察控制器上的端口输入状态灯或者调试界面,手动开、关门, 检测行程开关和各个信号应有对应变化为正常。如果外部开关为常闭类型, 需设置 X3,X4,X5,X6 功能为常闭类型。

Manually open and close the door, observe the controller input port LED Status or by Debugging UI, confirm the limit switches and signals are normal. If the external switch is normally open (NO), it needs set X3, X4, X5, X6 function to be NO (Normal Open)

4. 开关门曲线调试。 Debugging of OD/CD curve

3.6 复位故障 Reset Fault

故障检修后，**执行以下任一操作复位故障：**

After clearing the fault, **perform any of the following operations to reset the fault:**

- 外部复位端子：设置端子功能为外部复位。

External reset terminal: Set the terminal function to external reset

- **控制器：完全掉电，然后再上电。**

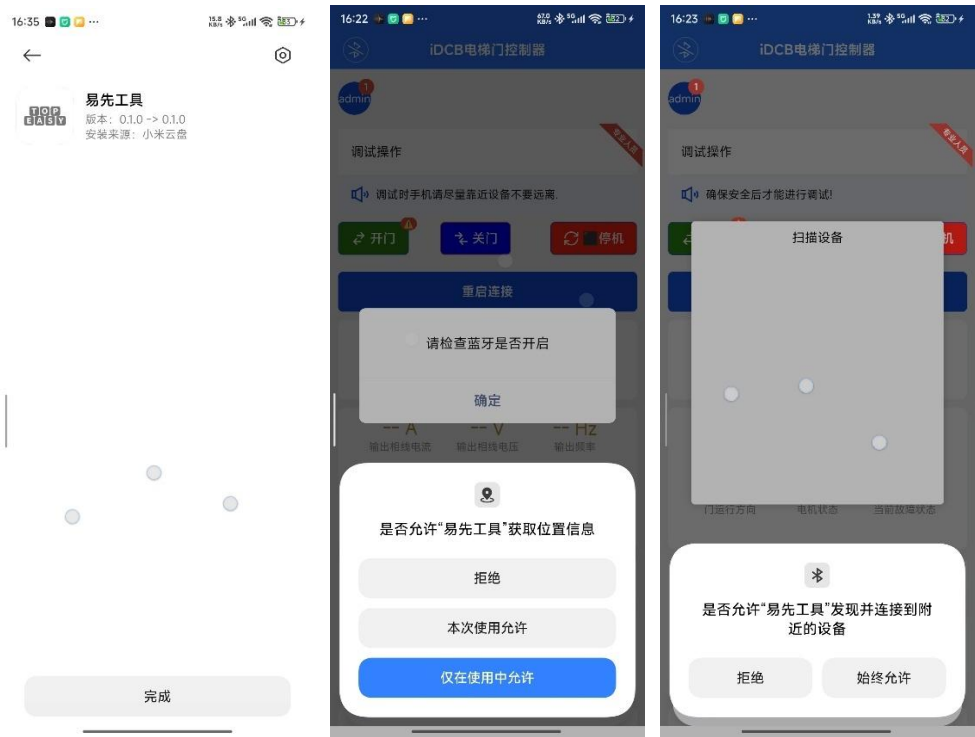
Controller: Power off completely, then power on again.

3.7 手机 App Mobile Phone App

使用手机 App 对控制器进行设置

Use Mobile phone App to Setting controller

3.7.1 安装 App 并开启蓝牙和定位 Install App & Enable Bluetooth and Location



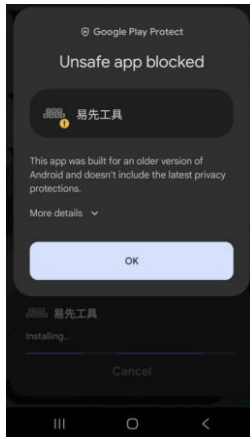
App 使用时需要先打开手机的蓝牙和定位!否则无法搜索和连接设备!
如果不小心点错了导致关闭权限了,请在设置中重新打开这些权限后重启 App 再试!

When using the App, ensure that your phone's Bluetooth and Location services are turned on! Otherwise, the device cannot be searched for or connected.

If you accidentally disable the permissions, please re-enable them in the settings, restart the app, and try again!

3.7.2 部分手机解除安装 APK 拦截 Unblock APK Installation On Some Phones

A.Unsafe app blocked @ Google Play Protect



To disable the Google Play Protect mechanism, please follow these steps:

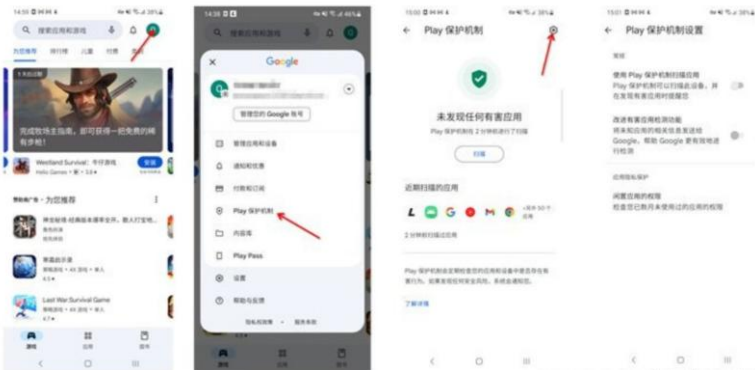
Open the *Google Play Store* application.

Tap the *profile icon* in the top-right corner.

Select *Play Protect*.

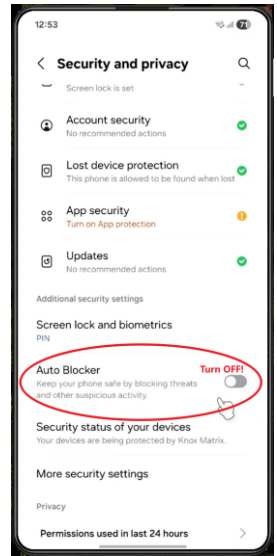
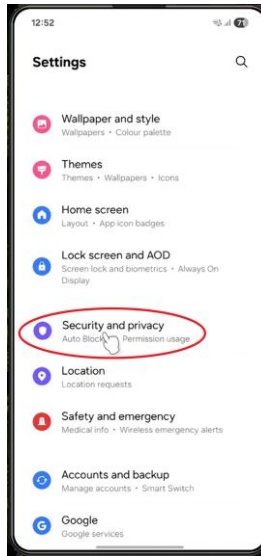
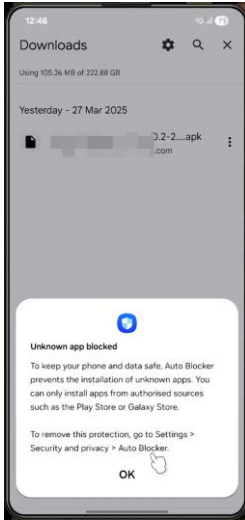
Tap the *gear icon* in the top-right corner, then turn off *Scan apps with Play Protect*.

By default, the Google Play Store blocks the installation of APK files from third-party sources. Therefore, you can safely disable this feature and re-enable it after the installation is completed. This software is developed by us, and you can use it with confidence.

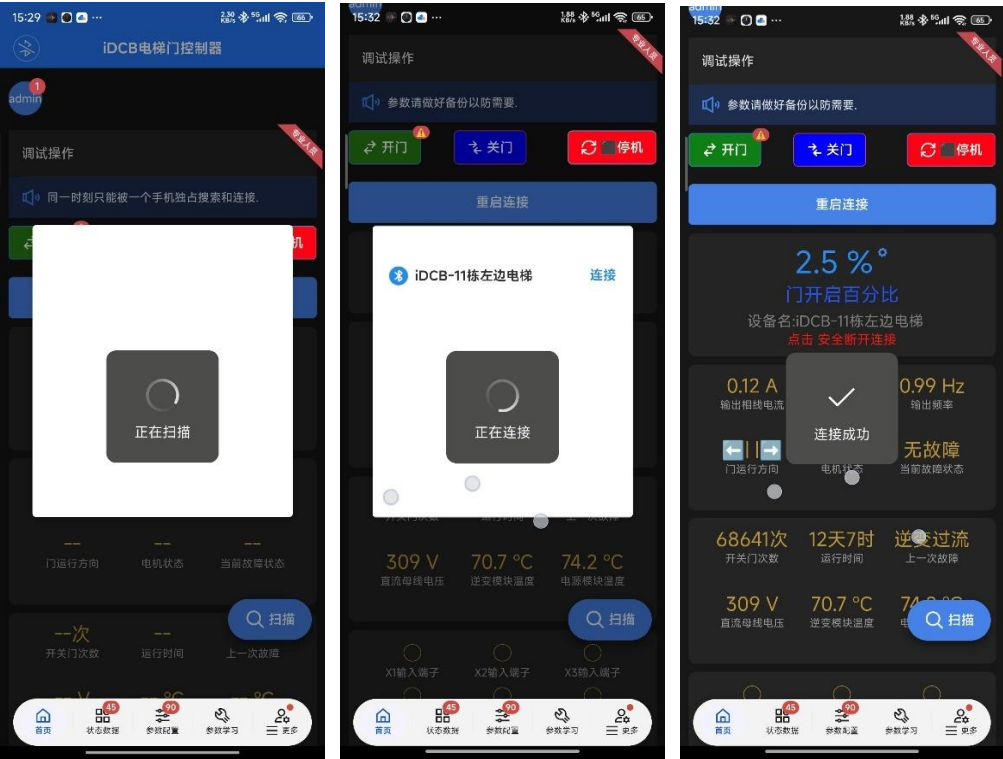


B.Unknown app blocked

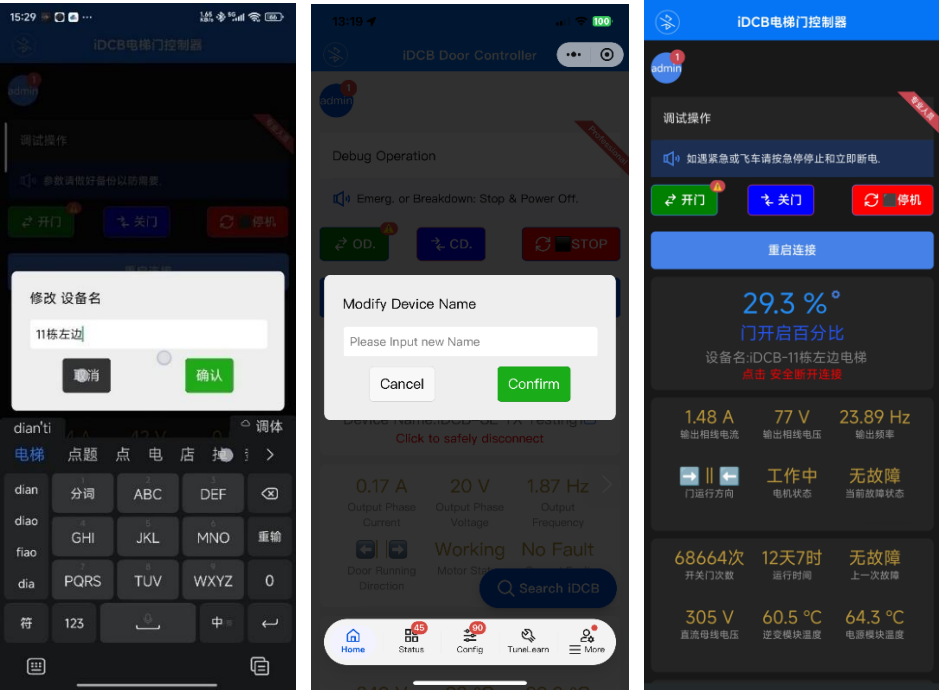
That message means Samsung's Auto Blocker feature is active, stopping you from installing apps from outside the Play Store or Galaxy Store for security. To install apps from other sources (like a downloaded APK file), you must temporarily disable Auto Blocker in Settings > Security and privacy > Auto Blocker, or go to More security settings > Install unknown apps to allow specific apps



3.7.3 搜索并连接控制器 Search & Connect Controller

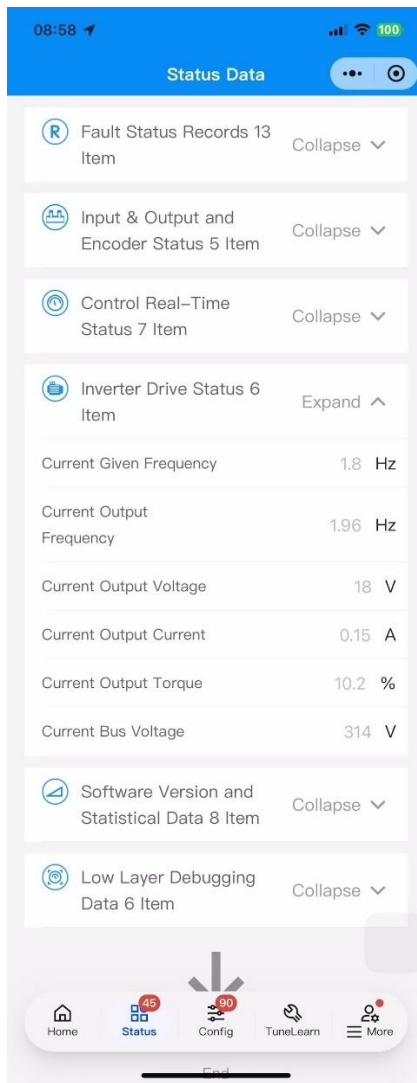


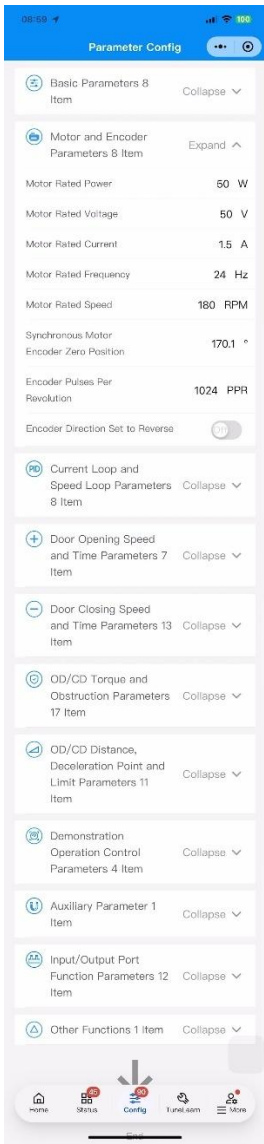
3.7.4 可以修改设备名 Can modify the device name

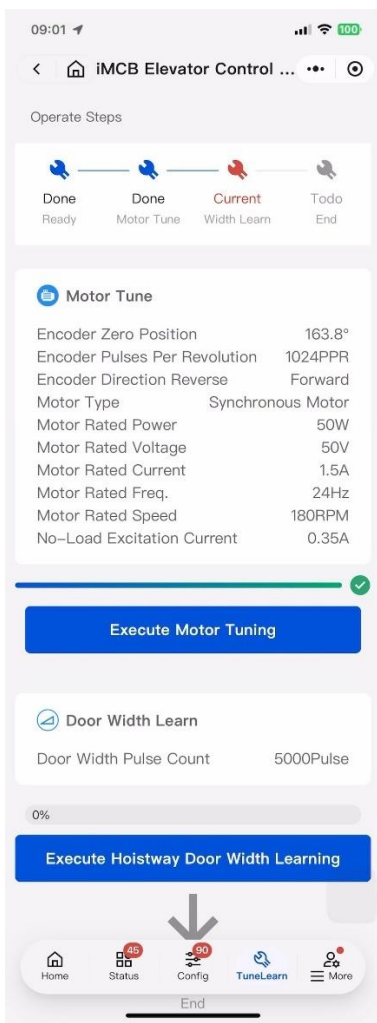


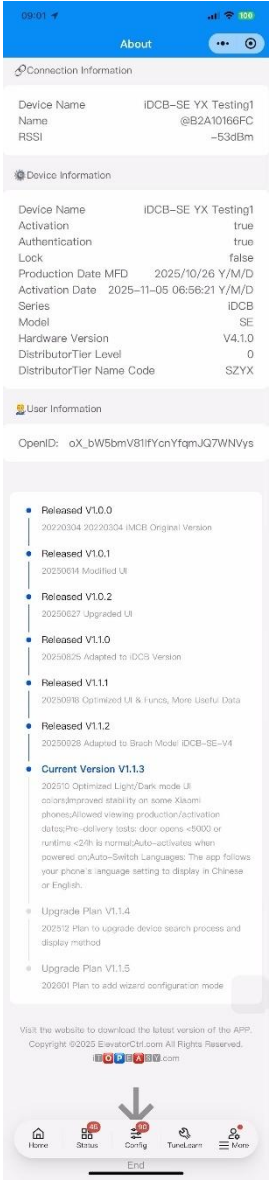
3.7.5 界面功能 UI Function











3.7.6 使用微信小程序 Use Wechat Mini-Program

微信 APP 中搜索“易先”或者扫码下面二维码

In the WeChat app, search for "易先" or scan the QR code below.



 微信扫一扫，使用小程序

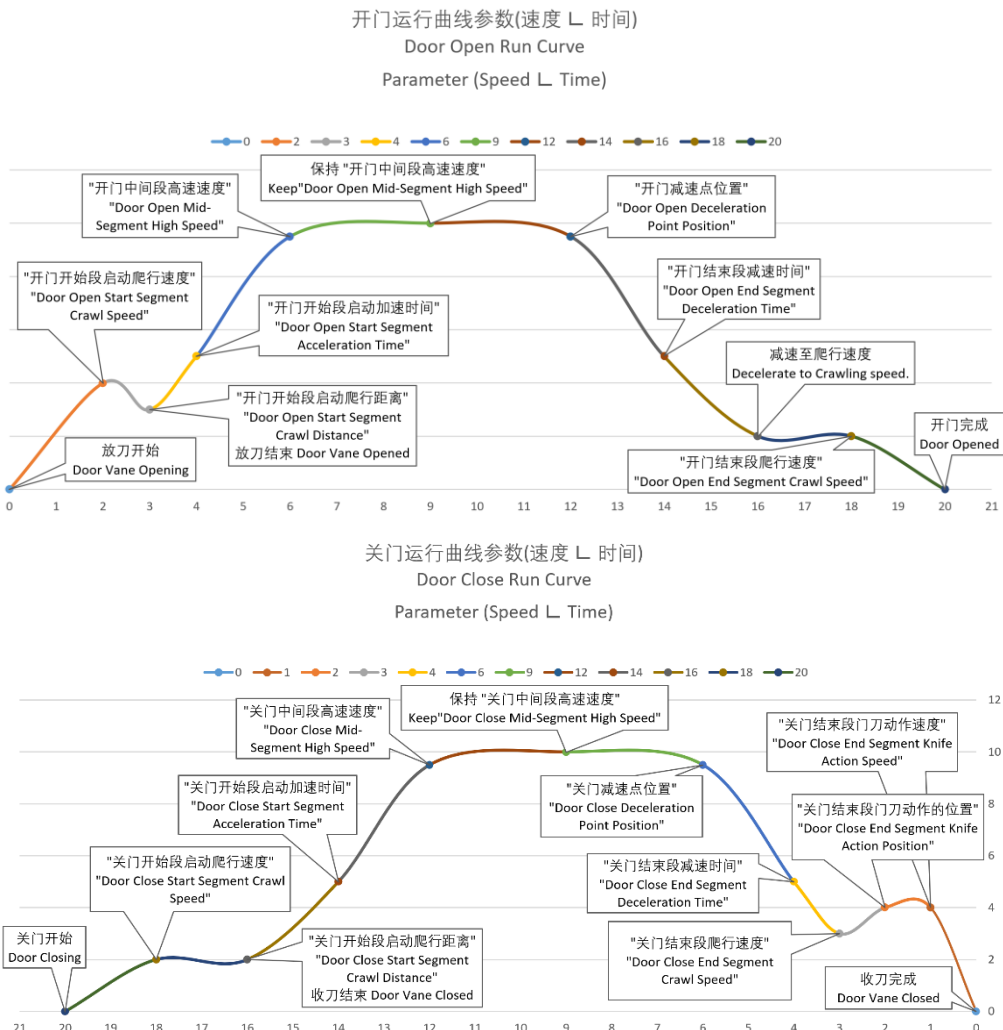
3.7.7 下载 iDCB App 程序 Download iDCB App Program

访问网站下载最新 App 和 用户手册 Visit the website to download the latest App and user manual.
http://www.itopeasy.com
ElevatorCtrl.com



Note: https:// ---> http:// , remove 's' !
Click this link, some software will automatically add an 's' in link, resulting in inaccessibility!

3.8 开关/关门 运行曲线参数图 Door Open/Close Curve Parameters Diagram



3.9 开/关门 运行曲线参数解析 Door Open/Close Curve Parameters Analysis

3.9.1 使用编码器的距离控制模式的开门曲线 **Opening Curve** in Distance Control Mode Using Encoder

→A.当**开启** 开门和关门减速点自动处理时, 根据 减速距离和 爬行距离 **自动处理**减速点:

影响 减速距离 相关参数为(开门中间段高速速度 和 开门结束段减速时间)

影响 爬行距离 相关参数为(开门结束段爬行速度 和 开门结束段爬行时间 @开门和关门减速点自动处理设为开!)

影响 爬行速度 相关参数为(开门结束段爬行速度)

→B.当**关闭** 开门和关门减速点自动处理 时, 根据 开门减速点位置 **遵循设定值处理**减速点:

* (此值为门宽的百分比,值设的越大越接近 100%, 则减速点位置 越接近开门限位的位置. 设置过大会导致减速不够,出现撞门声音. 请根据现场情况进行逐步微调).

影响 减速距离 相关参数为(开门中间段高速速度 和 开门结束段减速时间)

影响 爬行距离 相关参数为(开门减速点位置, 此时爬行距离就是 减去减速距离的 剩余的开门距离)

影响 爬行速度 相关参数为(开门结束段爬行速度)

→A. When "Open and Close Deceleration Point Auto-Processing" **is enabled**,The deceleration point is **automatically calculated** based on the deceleration distance and the crawl distance.

- Parameters affecting the **deceleration distance** are:
 - Door Open Mid Segment High Speed
 - Door Open End Segment Deceleration Time
- Parameters affecting the **crawl distance** are:
 - Door Open End Segment Crawl Speed
 - Door Open End Segment Crawl Time (Effective when Open and Close Deceleration Point Auto-Processing is ON)
- Parameters affecting the **crawl speed** are:
 - Door Open End Segment Crawl Speed

→B. When "Open and Close Deceleration Point Auto-Processing" **is disabled**,The deceleration point is determined **according to the set value** of Door Open Deceleration Point Position.

*(This value is a percentage of the door width. A larger value, closer to 100%, means the deceleration point is closer to the opening limit switch. Setting it too high may result in insufficient deceleration and cause door impact noise. Please fine-tune gradually based on field conditions.)

- Parameters affecting the **deceleration distance** are:

- Door Open Mid Segment High Speed
- Door Open End Segment Deceleration Time
- Parameters affecting the **crawl distance** are:
 - Door Open Deceleration Point Position (In this mode, the crawl distance is the remaining opening distance after subtracting the deceleration distance.)
- Parameters affecting the **crawl speed** are:
 - Door Open End Segment Crawl Speed

3.9.2 使用编码器的距离控制模式的关门曲线 **Closing Curve** in Distance Control Mode Using Encoder

→A.当**开启** 开门和关门减速点自动处理 时, 根据 减速距离和 爬行距离以及门刀距离 **自动处理**减速点:

影响 减速距离 相关参数为(关门中间段高速度 和 关门结束段减速时间)

影响 爬行距离 相关参数为(关门结束段爬行速度 和 关门结束段爬行时间 @开门和关门减速点自动处理设为开!)

影响 爬行速度 相关参数为(关门结束段爬行速度)

影响 门刀距离 相关参数为(门刀宽度距离)

→B.当**关闭** 开门和关门减速点自动处理 时, 根据 关门减速点位置 **遵循设定值处理**减速点:

* (此值为门宽的百分比,值设的越大,越接近 100%, 则减速点位置 越接近关门限位的位置. 设置过大会导致减速不够,出现撞门声音. 请根据现场情况进行逐步微调).

影响 减速距离 相关参数为(关门中间段高速度 和 关门结束段减速时间)

影响 爬行距离 相关参数为(去除 减速距离,收刀区域距离, 剩余的才是 爬行距离! 爬行距离没有直接参数控制,是由剩余的决定的.)

影响 爬行速度 相关参数为(关门结束段爬行速度)

A. When "Open and Close Deceleration Point Auto-Processing" **is enabled**, The deceleration point is **automatically calculated** based on the deceleration distance, the crawl distance, and the door knife distance.

- Parameters affecting the **deceleration distance** are:
 - Door Close Mid Segment High Speed
 - Door Close End Segment Deceleration Time
- Parameters affecting the **crawl distance** are:
 - Door Close End Segment Crawl Speed
 - Door Close End Segment Crawl Time (Effective when Open and Close Deceleration Point Auto-Processing is ON)

- Parameters affecting the **crawl speed** are:
 - Door Close End Segment Crawl Speed
- Parameters affecting the **door knife distance** are:
 - Door Knife Width Distance

→B. When "Open and Close Deceleration Point Auto-Processing" **is disabled**, The deceleration point is determined **according to the set value** of Door Close Deceleration Point Position.

*(This value is a percentage of the door width. A larger value, closer to 100%, means the deceleration point is closer to the closing limit switch. Setting it too high may result in insufficient deceleration and cause door impact noise. Please fine-tune gradually based on field conditions.)

- Parameters affecting the **deceleration distance** are:
 - Door Close Mid Segment High Speed
 - Door Close End Segment Deceleration Time
- Parameters affecting the **crawl distance** are:
 - The crawl distance is determined by what remains after subtracting the *deceleration distance* and the *door knife engagement distance*. There is no direct parameter controlling it; it is a result of the remaining distance.
- Parameters affecting the **crawl speed** are:
 - Door Close End Segment Crawl Speed

3.9.3 使用开关信号的速度控制模式的**开门曲线** **Opening Curve** in Speed Control Mode Using Switch Signals

请确认 开门限位、开门减速/换速 信号 已经分别正确接入端子

Please confirm that the OD Limit, OD Deceleration/ Speed Switch Signal has been properly connected to the terminals.

1. 开门减速点位置 和 爬行: 当 开门减速/换速 信号有效时,在 开门结束段减速时间 时间内,将速度从 开门中间段高速速度 减速至 开门结束段爬行速度 继续爬行运行.

影响 减速距离 主要相关参数为(开门中间段高速速度 和 开门结束段减速时间)

影响 爬行距离 主要相关参数和信号为(开门结束段减速时间 和 开门减速/换速 信号 安装位置)

影响 爬行速度 相关参数为(开门结束段爬行速度)

2. 开门限位减速停车:

影响 限位减速停车距离 相关参数为(磁通/异步开环 矢量速度转矩切换延迟时间)

影响 限位减速停车速度 相关参数为(开门结束段爬行速度)

1. **Opening Deceleration Point Position and Crawl:** When the *OD Deceleration/Speed Switch* signal becomes active, the door speed reduces from Door Open Mid Segment High Speed to Door Open End Segment Crawl Speed within the time set by Door Open End Segment Deceleration Time, and then continues to run at the crawl speed.
 - Parameters primarily affecting the **deceleration distance** are:
 - Door Open Mid Segment High Speed
 - Door Open End Segment Deceleration Time
 - Parameters and signals primarily affecting the **crawl distance** are:
 - Door Open End Segment Deceleration Time
 - The installation position of the *OD Deceleration/Speed Switch* signal.
 - Parameters affecting the **crawl speed** are:
 - Door Open End Segment Crawl Speed
2. **Slowing to Stop at the Opening Limit:**
 - Parameters affecting the **slowing/stopping distance at the limit** are:
 - Flux/Asynchronous SVC Vector Speed to Torque Switch Delay Time
 - Parameters affecting the **slowing/stopping speed at the limit** are:
 - Door Open End Segment Crawl Speed

3.9.4 使用开关信号的速度控制模式的关门曲线 **Closing Curve** in Speed Control Mode Using Switch Signals

请确认关门限位、关门减速/换速 信号 已经分别正确接入端子

Please confirm that the CD Limit, CD Deceleration/ Speed Switch Signal has been properly connected to the terminals.

1. 关门减速点位置: 当 关门减速/换速 信号有效时, 在 关门结束段减速时间 时间内,将速度从 关门中间段高速速度 减速至 关门结束段爬行速度 继续爬行运行.

影响 减速距离 主要相关参数为(关门中间段高速速度 和 关门结束段减速时间)

2. 关门爬行和收刀区域:

影响 爬行距离 主要相关参数和信号为(关门结束段减速时间 和 关门减速/换速 信号 安装位置 和 关门结束段 门刀动作的位置(距离控制,Pulse)/爬行速度 运行时间(速度控制,ms))

影响 爬行速度 相关参数为(关门结束段爬行速度)

影响 收刀距离 主要相关参数为(异步 关门结束段 门刀动作的 距离(距离控制,Pulse)/运行时间(速度控制,ms))

影响 收刀速度 相关参数为(关门结束段门刀动作速度)

影响 收刀动作结尾速度 相关参数为(关门结束段门刀动作结尾速度)

1. 1. **Closing Deceleration Point Position:** When the *CD Deceleration/Speed Switch* signal becomes active, the door speed reduces from Door Close Mid Segment High Speed to Door Close End Segment Crawl Speed within the time set by Door Close End Segment Deceleration Time, and then continues to run at the crawl speed.
- Parameters primarily affecting the **deceleration distance** are:

▪ Door Close Mid Segment High Speed

▪ Door Close End Segment Deceleration Time
2. **Closing Crawl and Door Knife Engagement Zone:**
- Parameters and signals primarily affecting the **crawl distance** are:

▪ Door Close End Segment Deceleration Time

▪ The installation position of the *CD Deceleration/Speed Switch* signal.

▪ Door Close End Segment Knife Action Position (for Distance Control, in Pulses) / Crawl Speed Run Time (for Speed Control, in ms).

○ Parameters affecting the **crawl speed** are:

▪ Door Close End Segment Crawl Speed

○ Parameters primarily affecting the **door knife engagement distance** are:

▪ (Asynchronous) Door Close End Segment Knife Action Distance (for Distance Control, in Pulses) / Run Time (for Speed Control, in ms).

○ Parameters affecting the **door knife engagement speed** are:

▪ Door Close End Segment Knife Action Speed

○ Parameters affecting the **final speed of the knife engagement action** are:

▪ Door Close End Segment Knife Action Final Speed
- 3.10 部分参数概览(-SE 型号) Part of Parameters Overview(-SE Model)
- ⚠ 表示重要参数一定不能设置错误! Indicates that important parameters must not be set wrong!

★ 表示其他需要重点关注的参数 Indicates other parameters that require special attention.
- | 基本参数 8 项 | Basic Parameters |
|------------------|---|
| 命令方式选择 ⚠ | Command Mode Selection ⚠ |
| 端子控制方式 (自动) | Terminal Control Mode (Automatic) |
| 面板/APP 调试控制 (手动) | Panel/APP Debug Control (Manual) |
| 循环开关门演示运行 | Circular OD/CD Demo Operation |
| 上电定位运行时的速度 | Speed During Power-On Positioning Operation |
- iDCB Door Controller User Manual | iDCB 门控制器 用户手册

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上电定位和门宽学习到位判定力矩	Torque for In-Place Judgment of Power-On Positioning and Door Width Learning
慢速使能时的运行速度限制	Operating Speed Limit During Slow Enable
面板调试运行频率	Panel Debugging Operation Frequency
面板运行转矩限制	Panel Operation Torque Limit
端子和演示运行转矩限制	Terminal and Demonstration Operation Torque Limit
允许的最大输出频率	Maximum Allowed Output Frequency
电机和编码器参数 8 项	Motor and Encoder Parameters
电机额定功率	Motor Rated Power
电机额定电压	Motor Rated Voltage
电机额定电流 ⚠️	Motor Rated Current ⚠️
电机额定频率 ⚠️	Motor Rated Frequency ⚠️
电机额定转速 ⚠️	Motor Rated Speed ⚠️
同步机编码器零点位置 ⚠️	Synchronous Motor Encoder Zero Position ⚠️
编码器每转脉冲数 ⚠️	Encoder Pulses Per Revolution ⚠️
编码器方向设为反向 ⚠️	Encoder Direction Set to Reverse ⚠️
电流环和速度环参数 8 项	Current Loop and Speed Loop Parameters
速度环比例增益 1	Speed Loop Proportional Gain 1
速度环积分增益 1	Speed Loop Integral Gain 1
切换频率 1	Switching Frequency 1
速度环比例增益 2	Speed Loop Proportional Gain 2
速度环积分增益 2	Speed Loop Integral Gain 2
切换频率 2	Switching Frequency 2
电流环比例增益	Current Loop Proportional Gain
电流环积分增益	Current Loop Integral Gain
开门速度和时间参数 7 项	Door Opening Speed and Time Parameters
开门启动低速设定	OD Startup Low-Speed Setting
开门启动最低速度	OD Minimum Startup Speed
开门高速设定 ⭐	OD High-Speed Setting ⭐
开门最高速度 ⭐	OD Maximum Speed ⭐
开门加速时间 ⭐	OD Acceleration Time ⭐
开门结束低速	OD End Low Speed

开门减速时间 ★	OD Deceleration Time ★
重开门曲线高速区设置	Reopening Curve High-Speed Zone Setting
开门爬行时间	OD Crawl Time
关门速度和时间参数 13 项	Door Closing Speed and Time Parameters
关门启动速度	CD Startup Speed
关门启动最低速度	CD Minimum Startup Speed
关门高速设定 ★	CD High-Speed Setting ★
关门最高速度 ★	CD Maximum Speed ★
关门加速时间 ★	CD Acceleration Time ★
关门减速时间 ★	CD Deceleration Time ★
关门收刀距离	CD Retraction Distance
收刀速度设定 ★	Retraction Speed Setting ★
收刀速度 ★	Retraction Speed ★
关门爬行结束低速	CD Crawl End Low Speed
关门结束爬行速度	CD End Crawl Speed
关门收刀尾速	CD Retraction Tail Speed
关门收刀范围	CD Retraction Range
关门限位点设置	CD Limit Point Setting
关门受阻低速设定	CD Obstruction Low-Speed Setting
关门受阻高速设定	CD Obstruction High-Speed Setting
关门爬行时间	CD Crawl Time
开关门力矩和遇阻参数 17 项	OD/CD Torque and Obstruction Parameters
开门切换力矩	OD Switching Torque
开门到位短时保持力矩	OD Short-time Holding Torque
开门到位长时保持力矩 ⚠	OD Long-term Holding Torque ⚠
开门保持力矩短时切换到长时的等待时间	Waiting time for OD Holding Torque Short-time to Long-term Switch
开门遇阻力矩设定 ★	OD Obstruction Torque Setting ★
开门遇阻时间设定 ★	OD Obstruction Time Setting ★
开门遇阻停机休息时间设定	OD Obstruction Stopped Rest Time Setting
开门受阻模式	OD Obstruction Mode
开门停机	OD Stop
受阻后保持开门动作，多功能输出受阻信号	Maintain OD action after being blocked, and the multi-function output sends a blocked signal

关门切换力矩	CD Switching Torque
关门到位短时保持力矩	CD Short-time Holding Torque
关门到位长时保持力矩 ⚠️	CD Long-term Holding Torque ⚠️
关门保持力矩短时切换到长时的等待时间	Waiting time for CD Holding Torque Short-time to Long-term Switch
低速关门遇阻力矩设定 ⭐	Low-Speed CD Obstruction Torque Setting ⭐
低速关门遇阻力矩时间 ⭐	Low-Speed CD Obstruction Torque Time ⭐
高速关门遇阻力矩设定 ⭐	High-Speed CD Obstruction Torque Setting ⭐
高速关门遇阻力矩时间 ⭐	High-Speed CD Obstruction Torque Time ⭐
关门受阻模式 ⭐	DC.Obstruction Mode ⭐
受阻重开门	Re-open Door After Blockage
受阻后保持关门动作，多功能输出受阻信号	Maintain CD action after being blocked, and the multi-function output sends a blocked signal
开关门距离和减速点和限位参数 11 项	OD/CD Distance, Deceleration Point and Limit Parameters
门宽自学习速度	Door Width Self-Learning Speed
门宽低位 ⚠️	Door Width Lower Position ⚠️
门宽高位 ⚠️	Door Width Upper Position ⚠️
开门启动爬行距离	OD Start Creep Distance
开门减速点 ⚠️	OD Deceleration Point ⚠️
开门限位点设置	OD Limit Point Setting
关门启动爬行距离	CD Start Creep Distance
关门减速点 ⚠️	CD Deceleration Point ⚠️
关门限位点脉冲设置	CD Limit Point Pulse Setting
门位置设定	Door Position Setting
关门限位开关位置脉冲	CD Limit Switch Position Pulse
演示运行的控制参数 4 项	Demonstration Operation Control Parameters
演示运行开门到位保持时间	Demonstration Operation OD In-Place Holding Time ⭐
演示运行关门到位保持时间 ⭐	Demonstration Operation CD In-Place Holding Time ⭐
演示运行次数记录	Demonstration Operation Count Record
演示运行指定运行次数	Demonstration Operation Specified Running Count
辅助参数 1 项	Auxiliary Parameter
关门受阻辅助检测时间	CD Obstruction Auxiliary Detection Time
撤命令运行方式	Command Cancellation Operation Mode

在开关门到位范围内进行力矩保持，在其它位置时零速运行	Maintain torque within the door opening/closing in-place range, and run at zero speed at other positions
停止运行	Stop Working
只在开关门到位范围内进行力矩保持	Maintain torque only within the OD/CD in-place range
输入输出端口功能参数 12 项	Input/Output Port Function Parameters
输入 X 端口信号滤波时间	Input X Port Signal Filtering Time
X1 输入端口功能 ⚠	X1 Input Port Function ⚠
未使用	Unused
开门命令-常开	Door Open Command (NO)
开门命令-常闭	Door Open Command (NC)
关门命令-常开	Door Close Command (NO)
关门命令-常闭	Door Close Command (NC)
外部故障复位输入-常开	External Fault Reset Input (NO)
外部故障复位输入-常闭	External Fault Reset Input (NC)
开门禁止-常开	Door Open Inhibit (NO)
开门禁止-常闭	Door Open Inhibit (NC)
慢速输入-常开	Slow Speed Input (NO)
慢速输入-常闭	Slow Speed Input (NC)
电机过热-常开	Motor Overheat (NO)
电机过热-常闭	Motor Overheat (NC)
光幕输入-常开	Light Curtain Input (NO)
光幕输入-常闭	Light Curtain Input (NC)
安全触板输入-常开	Safe Edge Input (NO)
安全触板输入-常闭	Safe Edge Input (NC)
开门限位输入-常开	Door Open Limit Input (NO)
开门限位输入-常闭	Door Open Limit Input (NC)
关门限位输入-常开	Door Close Limit Input (NO)
关门限位输入-常闭	Door Close Limit Input (NC)
开门减速信号输入-常开	Door Open Decel Signal (NO)
开门减速信号输入-常闭	Door Open Decel Signal (NC)
关门减速信号输入-常开	Door Close Decel Signal (NO)
关门减速信号输入-常闭	Door Close Decel Signal (NC)
门锁输入-常开	Door Lock Input (NO)
门锁输入-常闭	Door Lock Input (NC)
强迫关门输入（以慢速信号执行关门操作）-常开	Forced Close Input (Slow, NO)
强迫关门输入（以慢速信号执行关门操作）-常闭	Forced Close Input (Slow, NC)

X2 输入端口功能 ⚠️	X2 Input Port Function ⚠️
X3 输入端口功能	X3 Input Port Function
X4 输入端口功能	X4 Input Port Function
X5 输入端口功能	X5 Input Port Function
X6 输入端口功能	X6 Input Port Function
X7 输入端口功能	X7 Input Port Function
X8 输入端口功能	X8 Input Port Function
Y1 输出端口功能 ⭐	Y1 Output Port Function ⭐
未使用	Unused
开门到位 0- 常开 (限位或限位脉冲数到达)	Door Open Pos.0 - NO (Limit/Pulse Met)
开门到位 0- 常闭 (限位或限位脉冲数到达)	Door Open Pos.0 - NC (Limit/Pulse Met)
关门到位 0- 常开 (限位或限位脉冲数到达)	Door Close Pos.0 - NO (Limit/Pulse Met)
关门到位 0- 常闭 (限位或限位脉冲数到达)	Door Close Pos.0 - NC (Limit/Pulse Met)
故障输出-常开	Fault Output - NO
故障输出-常闭	Fault Output - NC
开门到位 1- 常开 (限位或限位脉冲数到达且力矩到达)	Door Open Pos.1 - NO (Limit/Pulse + Torque Met)
开门到位 1- 常闭 (限位或限位脉冲数到达且力矩到达)	Door Open Pos.1 - NC (Limit/Pulse + Torque Met)
关门到位 1- 常开 (限位或限位脉冲数到达且力矩到达)	Door Close Pos.1 - NO (Limit/Pulse + Torque Met)
关门到位 1- 常闭 (限位或限位脉冲数到达且力矩到达)	Door Close Pos.1 - NC (Limit/Pulse + Torque Met)
开门到位 2- 常开 (限位或限位脉冲数到达且力矩到达)	Door Open Pos.2 - NO (Limit/Pulse + Torque Met)
开门到位 2- 常闭 (限位或限位脉冲数到达且力矩到达)	Door Open Pos.2 - NC (Limit/Pulse + Torque Met)
关门到位 2- 常开 (限位或限位脉冲数到达且力矩到达)	Door Close Pos.2 - NO (Limit/Pulse + Torque Met)
关门到位 2- 常闭 (限位或限位脉冲数到达且力矩到达)	Door Close Pos.2 - NC (Limit/Pulse + Torque Met)
门锁信号输入-常开 (同步输入门锁信号)	Door Lock Sig. In - NO (Sync Input)
门锁信号输入-常闭 (同步输入门锁信号)	Door Lock Sig. In - NC (Sync Input)
重开门信号输出-常开	Reopen Sig. Out - NO
重开门信号输出-常闭	Reopen Sig. Out - NC
遇阻输出-常开	Obstruction Output - NO
遇阻输出-常闭	Obstruction Output - NC
门位置输出-常开	Door Pos. Output - NO
门位置输出-常闭	Door Pos. Output - NC
门机就绪输出-常开	Door Run Ready Out - NO
门机就绪输出-常闭	Door Run Ready Out - NC
运行中-常开	In Operation - NO
运行中-常闭	In Operation - NC
门刀电磁阀输出-常闭	Door Knife Solenoid Out - NC

门刀电磁阀输出-常开	Door Knife Solenoid Out - NO
Y2 输出端口功能 ★	Y2 Output Port Function ★
Y3 输出端口功能 ★	Y3 Output Port Function ★
其他功能 1 项	Other Functions
厂家功能	Manufacturer Function
无/主要参数恢复为系统默认值 ★	None/Main parameters restored to system default values ★