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DYNAMIC
SWORD
ELECTRIC[®]

S系列电梯控制产品
S SERIES PRODUCTS

北京索德电气工业有限公司

BEIJING DYNAMIC SWORD ELECTRIC INDUSTRIAL CO.,LTD.



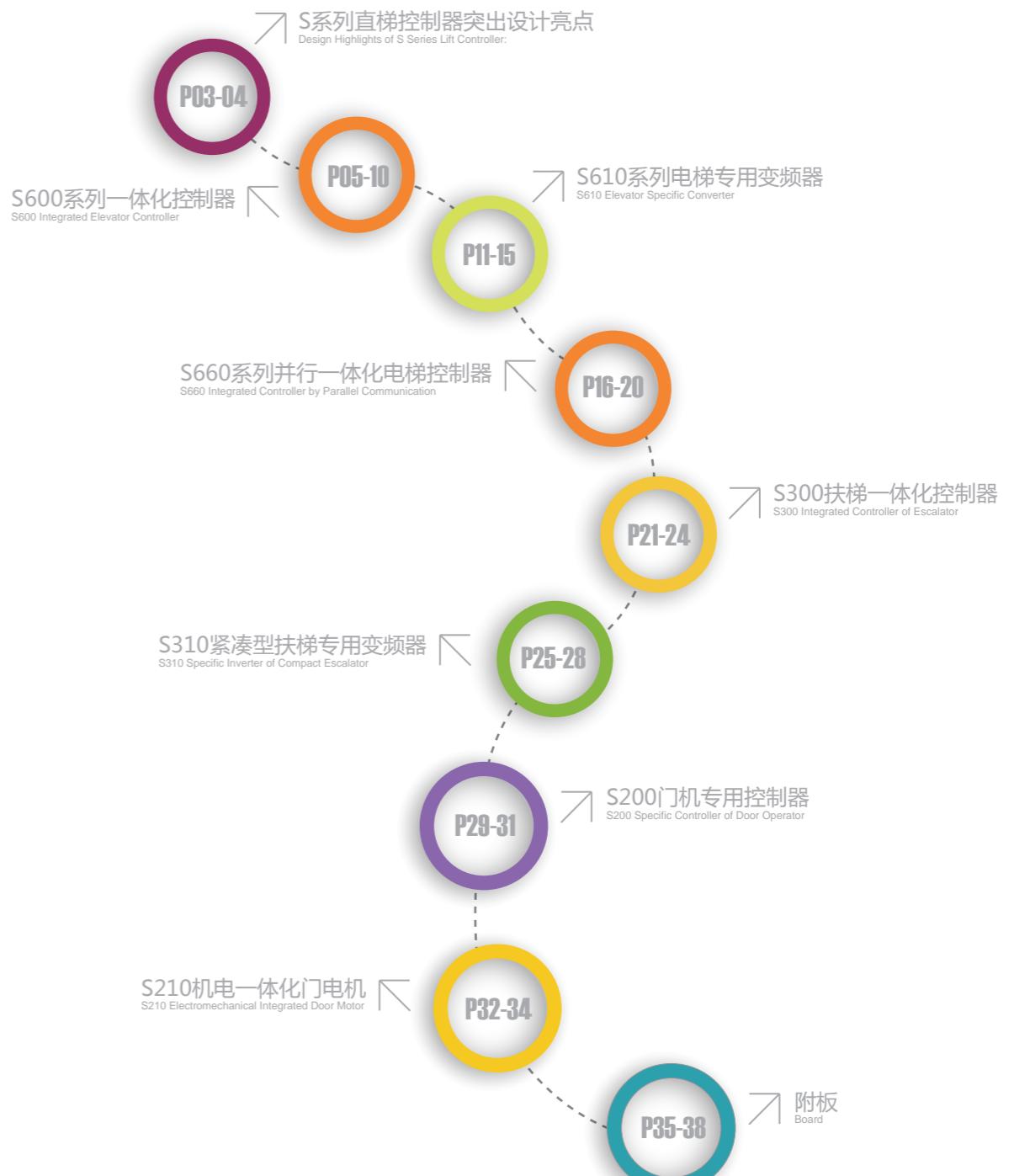
公司简介

About SWORD

北京索德电气工业有限公司成立于1999年,是一家专业从事电气传动控制系统、电机研发和生产的国家级高新技术企业,具有国家军工二级保密资格证书。

索德电气专注于高端驱动&运动控制与系统电机的研发、制造,业务涉及船舶、电梯、新能源汽车、机器人、军品、智能制造、物联网、企业信息化等领域。产品主要包括高/中/低压变频器、船舶电力推进系统、船舶轴带发电系统、一体化电梯控制器、新能源汽车驱动控制器、移动电源发电系统、电梯物联网、企业综合信息化管理平台等。

Beijing SWORD Electric Industrial Co., Ltd founded in 1999, a national level High & New Technology Enterprise, specialized in R&D and production of Electrical Drive Control Systems and Motors, with Secondary Confidential Qualification Certificate of National Military Industry. SWORD focuses on researching, developing and manufacturing high-end Drive & Control Systems and Motors. Major businesses cover industries of vessels, elevators, new energy automobiles, robots, military products, intelligent manufacturing, IOT, enterprise informatization management, etc. Main products include mid-to-high/medium/low voltage Inverter, Marine Power Generation Propulsion System, Marine Shaft Power Generation System, Integrated Elevator Controller, New Energy Vehicle Drive Controller, Mobile Power Generation System, Elevator IOT, Enterprise Integrated Information Management Platform, etc.



S系列直梯控制器突出设计亮点：

Design Highlights of S Series Lift Controller:

■ 一流的驱动控制性能，完美解决电梯舒适感问题。有效解决全速运行时的抖动难题，有效抑制曳引机噪音。

■ 同步机免角度自学习

磁极位置的识别，磁极位置检测的角度偏差在5°以内；

第一次运行自动识别编码器对应方向，无需手动校正电机UVW输出线序；

第一次检修运行，自动完整学习电机参数。

■ 高性能同步机无传感器起动转矩补偿功能

消除打开抱闸时的位置变动（倒溜），防止振动的转矩补偿功能；

实现载荷的自适应，无需调整即可达到良好的启动效果；

一致性好，启动效果环境适应性强，不随机械状态的变化而变化。

■ 多种同步机飞车防护策略

自动适应编码器线序、自动学习UVW相序等特有安全保护措施杜绝同步曳引机飞车安全隐患：

保障编码器线序错误不飞车，电机参数错误不飞车，初始磁极角度错误不飞车，编码器任意线序掉线不飞车；以及将飞车距离控制在200mm以内补充功能，最大限度的保护人生命安全。

■ Perfectly solve the problem concerning riding comfort with its excellent driving control performance.

Effectively solved the challenged vibrant problem under full speed operation and suppressed the noise of motor.

■ Free of angle to self-tuning of synchronous motor

Automatically identify the angle position of electromagnetic pole in 100 ms when first power-on, with an angular deviation less than 5°.

Automatically identify the encoder direction at the first time running, no need of manual correction UVW output sequence of motor.

Automatically learn motor parameters at the first time inspection running.

■ High performance synchronous motor without torque compensation of sensor starting.

Remove the variation of position (reverse movement) when open the brake, the torque compensation function of anti-vibration.

Self-adapt to load, excellent start effectiveness can be achieved without adjustment.

Good consistency and strong circumstance adapt ability environment of starting, no change with variety of mechanical status.

■ Various protection methods of car uncontrollability of synchronous motor

Prevent synchronous motor from occurring car uncontrollability safety hazards, with specific precaution measures such as auto-adaption to encoder wiring sequence and self-learning UVW phase sequence, etc.

Protection it from uncontrollable galloping car happening due to encoder wiring sequence malfunction, motor parameters error, initial magnetic pole angle error, encoder arbitrary wiring sequence drop; additionally, the supplementary service of the galloping distance is strictly controlled within 200mm, to provide a maximum protection.



■ 同步电机闭环控制自动切换开环控制运行（定制）

■ 系统运行过程中，检测编码器异常，自动切换到开环运行，就近平层开门放人，防止编码器异常带来的飞车事故，杜绝此类问题带来的关人投诉。

■ 优异的基极封锁功能

安全回路硬件与软件同时检测，确保电梯在安全回路断开时，变频器停止输出，防止变频器发生过流故障；彻底解决接触器带载断开时的拉弧问题，提高控制系统使用寿命。

■ 独特的变频器电源监控功能（变频器心率监控）

电梯控制器驱动单元设立独立核心监控CPU，监控电源波动与电路异常监控，防止外部或者内部电源问题引起控制系统故障及损坏所造成的电梯停梯、关人时间。

■ Close-loop control auto-shift to open-loop control of Synchronous machine.(customization)

■ Encoder anomaly detection, auto-shift to open-loop operation, level off at the nearest floor to release the trapped passenger during the system running, effectively prevent accident of uncontrollable galloping car, and eliminate complaints over the person-shutting accident.

■ Optimized base blocking function

Hardware and software detect the safety circuit at the same time, making sure the circuit is cut off, the inverter stops outputting signal so as to prevent the inverter appearing over-current malfunction.

Completely solve arcing problem when contactor with loads, improve the working life of the control system.

■ Unique function of inverter power monitoring (inverter rate monitor)

The driving unit of elevator controller equipped with independent core monitoring CPU, monitors main fluctuation and abnormal circuit, and avoids elevators accidentally to stop or shut passengers due to malfunction or damage of control systems caused by external or internal power supply.



S600系列产品特点

Features

- 驱动与控制有机结合，性能优异
- 全防护结构设计，拆除上部下盖，即可完成调试接线
- 双32位处理芯片
- 支持同步控制和异步控制
- 同步机免角度学习
- 静止状态电机参数完整学习
- 电流环参数自学习，舒适感免调试、使用方便
- 无称重启动，高级防倒溜车功能
- 同步曳引机编码器断线，闭环切开环运行，就近平层停
- 车，开门放人
- N条曲线自动生成，超短层自动识别，直接停靠
- 满足GB7588.1标准
- 集成同步编码器卡
- 支持轿厢内调试功能
- 控制系统全通信动态加密，随机时间认证（外呼、内选
- CAN通信动态加密通信）
- 支持手持调试功能（安卓、苹果）
- 支持远程监控功能（以太网、GPRS）

- Dynamic integration of drive and control function with advanced performance.
- Full protection structural design, simply remove neither cap of the upper cover to complete the debug connection.
- Double 32-bits process chip.
- Integrated synchronous and asynchronous function
- Achieved free of angle learning of synchronous motor.
- Complete learning motor parameters under stationary state.
- Auto-learning current loop parameters, no need to debug the riding comforts, simple to use.
- No weighted start, advanced antidumper functions.
- When encoder wire of synchronous motor disconnect, the system will auto-shift to open-loop operation from close-loop, make elevator leveling off at the nearest floor and release the passengers.
- Auto-generate N curves, auto-identified ultra-short layer and directly leveling off.
- Meet GB7588.1 standard
- Integrated sync encoder card.
- Support inside-car debugging function.
- Control system all-communications dynamic encrypted, random time identified. (Hall call, CAN communication of Car call dynamic encrypt communication.)
- Support mobile-phone debugging function. (Android, IOS)
- Support remote distance monitoring function. (Ethernet, GPRS)

S600系列适用范围

Applicable elevator types



单梯、并联梯、4~8台群控（附加群控板）
Single elevator, parallel elevators, group-control with 4~8 elevators (with group control board)



客梯、医用梯、住宅梯、残障梯、消防梯
Passenger elevator, medical elevator, residence elevator, elevator for disabled, fire elevator



标配梯速≤4m/s，最大楼层64层
Standard elevator speed: ≤4m/s, M the maximum floor: 64 storey.



S600系列产品命名规则

Naming Rule

电压等级4:400V
Voltage Class



电流等级024:24A
Current Class



机器外形 S : 常规
Machine Shape S: General



S600-4 T 024

- S S E 0 0 - 00

S600系列一体化控制器
Integrated Elevator Controller

电源相数T:三相
Power Phase T: Three Phase

键盘类型 E:LED
Keyboard Type E: LED

预留码 Placeholder Code

用户代码 User Code

电机类型 S : 同步
Motor Type S : Synchronization

S600系列产品综合技术参数

Comprehensive technical index of S600 series products

基本特性 Basic feature	最大楼层 Maximum floor	64层 64 storey
	电梯运行速度 Elevator speed	标准最大4.00m/s (非标配绝对值编码器 , 可达12m/s) 4.00m/s standard maximum speed (Available with 12m/s equipped with absolute value encoder for nonstandard elevator)
	群控数量 Group control quantity	标准4台 , 非标8台 4 for standard, 8 for nonstandard
	通讯方式 Communication mode	CAN总线、RS422、UART、SPI CANBUS, RS422, UART, SPI
控制特性 Control characteristic	控制方式 Control mode	闭环矢量控制 Close-loop vector control
	最大启动力矩 Maximum starting torque	200% (带PG矢量控制) 200% (with PG vector control)
	速度控制范围 Speed control range	1:1000(带PG矢量控制) 1:1000 (with PG vector control)
	速度控制精度 Speed control accuracy	±0.05% (带PG矢量控制25±10°C) ±0.05% (with PG vector control 25±10°C)
	转矩响应 Torque response	≤10ms (带PG矢量控制) ≤10ms (with PG vector control)
	频率控制范围 Frequency control range	0~60Hz
	频率精度 Frequency accuracy	±0.01%
	频率设定分辨率 Setting resolution ratio for frequency	±0.01Hz/50Hz
	无称重启动补偿 No weighing start compensation	≤10ms (带PG矢量控制) ≤10ms (with PG vector control)
	最大启动力矩 Start torque	在选用正余弦编码器情况下 , 系统2ms内能完成负载所需的转矩补偿 If it utilizes Sin-Cos encoder, the system could complete the torque compensation required by load within 2ms.
	过载能力 Overload capacity	额定输出电流的150% 90s , 额定输出电流的180% 5s , 额定输出电流230% 3s 150% 90s of rated output current, 180% 5s of rated output current, 230% 3s of rated output current
	制动能力 Breaking capacity	额定电流的150%(外接制动电阻),额定输出电流90A及以下控制器内置制动单元 150% of rated current (externally connect break resistor), rated output current is 90A and below should built-in brake unit for controller.
	加速度范围 Accelerated speed range	0.1~2.0m/s ²
Encoder 编码器	载波频率 Carrier frequency	2~15kHz
	同步电机编码器 Encoder of the synchronous motor	标配正余弦编码器接口 (5V),ERN1387/487 Standard equip Sin-Cos encoder port (5V),ERN1387/487
	异步电机编码器卡 Encoder card of the asynchronous motor	支持ABZ编码器 (OC、推挽) Support ABZ encoder (OC, push-pull)
I/O信号控制 Control input output signal	绝对值编码器卡 Absolute value encoder card	4.0m/s以上时选配 Optional when elevator speed is over 4.0m/s.
	可编程光耦隔离普通输入 Programmable opto-isolator common input	30路 , 使用外接24VDC电源 , 高电平输入有效 30 Road, utilize external 24VDC power, high level input available.
	可编程光耦隔离高压输入 Programmable opto-isolator high voltage input	4路 , 标准使用110VDC、110VAC ; 可定制220VDC、220VAC 4 Road, with standard 110VDC, 110VAC input, customizable with 220VDC, 220VAC
	可编程继电器输出 Programmable relay output	8路常开触点 , 10A 30V DC或10A 125V AC或5A 250V AC 8 Road normally open contact, 10A 30V DC, 10A 125V AC or 5A 250V AC
	CAN通讯接口 CANBUS	2路 ; 内召与外召通讯接口 2 Road, hall call and car call communication interface
	串行通讯接口 Serial communication interface	1路RS422 : 用于并联控制、群控 1 Road RS422 : used for parallel and group control 1路UART手持键盘 , 1路UART远程监控 , 1路USB蓝牙 1 Road UART handheld keyboard, 1 Road UART remote monitor, 1 road USB blue-tooth

保护功能 Protect function	过压保护 Over voltage protection	200V级 : 主回路母线电压在400VDC以上停机 200V class : Machine shut down when busbar voltage of main circuit is over 400VDC; 400V级 : 主回路母线电压在800VDC以上停机 400V class : Machine shut down when busbar voltage of main circuit is over 800VDC ;
	欠压保护 Under-voltage protection	200V级 : 主回路母线电压在190VDC以下停机 200V class : Machine shut down when busbar voltage of main circuit is under 190VDC; 400V级 : 主回路母线电压在380VDC以下停机 400V class : Machine shut down when busbar voltage of main circuit is under 380VDC ;
	模块保护功能 Module protect function	过热、过流、直通等故障保护 Protection such as over heat, over current, direct connection, etc.
	过载保护 Over-load protection	包括变频器过载保护和电机过载保护 Including inverter overload protection and motor overload protection
	输入缺相保护 Input lack-phase protection	运行过程中 , 若输入缺相 , 关断输出 , 保护驱动控制器 If input lack-phase during operation - then the system will shut down output to protect the drive controller
	输出相间短路保护 Short circuit protection between output phases	运行过程中任意两相短路 , 关断输出 , 保护驱动控制器 Short circuit at any two phases during the operation, the system will shut down output to protect drive controller.
	输出接地短路保护 Output short circuit protected to ground	运行过程中任意一相对地短路 , 关断输出 , 保护驱动控制器 Any phase short circuit to ground occurred during the operation, the system will shut down output to protect drive controller.
	制动电阻短路保护 Break resistor short-circuit protection	当制动电阻发生短路时 , 制动单元会及时保护 When break resistor short circuit occurred, the brake unit will timely protect.
	脉冲编码器检测 Pulse encoder detection	PG断线检测 PG line break detection
	散热片过热保护 Cooling fin over heat protection	通过热敏电阻实时监测散热片温度 , 超过保护点即输出保护 Real-time monitoring the cooling fin temperature through thermistor, if it surpassed the protecting point then it starts to protect.
	曳引机过温保护 Motor over heat protection	当曳引机温度过高时会输出保护功能 Output protection function when tractor is over heat.



S600系列产品选型

S600 series products type selection

系统型号 Types	输入电压 Input Voltage	输入电流(A) Input Current	输出电流(A) Output Current	适配电机(kw) Matching Motor	制动电阻(功率W/阻值Ω) Braking Resistance
S600-2S009-SSE0000	单相交流 187V~264V Single AC 187V~264V	10.0	8.8	2.2	650W 75.0Ω
S600-2S014-SSE0000		15.0	14.0	3.7	1000W 50.0Ω
S600-2T009-SSE0000	三相交流 187V~264V Three phase AC 187V~264V	10.0	8.8	2.7	650W 75.0Ω
S600-2T014-SSE0000		15.0	14.0	3.7	1000W 50.0Ω
S600-2T017-SSE0000		19.0	17.0	4.0	1200W 40.5Ω
S600-2T024-SSE0000		25.0	23.6	5.5	1800W 27.0Ω
S600-2T032-SSE0000		34.0	32.0	7.5	2500W 19.5Ω
S600-2T036-SSE0000		38.0	36.0	11.0	3000W 16.0Ω
S600-2T042-SSE0000		43.0	42.0	13.5	3500W 14.0Ω
S600-2T048-SSE0000		49.0	48.0	15.0	4500W 11.0Ω
S600-2T060-SSE0000		63.0	60.0	18.5	5500W 9.0Ω
S600-2T071-SSE0000		73.0	71.0	22.0	6500W 7.5Ω
S600-2T090-SSE0000		92.0	90.0	30.0	9000W 5.5Ω
S600-4T009-SSE0000	三相交流 323V~456V Three phase AC 323V~456V	10.0	8.8	3.7	1200W 136.0Ω
S600-4T014-SSE0000		15.0	14.0	5.5	1800W 91.0Ω
S600-4T017-SSE0000		19.0	17.0	7.5	2500W 65.0Ω
S600-4T024-SSE0000		25.0	23.6	11.0	3500W 47.0Ω
S600-4T032-SSE0000		34.0	32.0	15.0	4500W 36.0Ω
S600-4T036-SSE0000		38.0	36.0	18.5	5500W 30.0Ω
S600-4T042-SSE0000		43.0	42.0	20.0	6000W 27.0Ω
S600-4T048-SSE0000		49.0	48.0	22.0	7000W 23.0Ω
S600-4T060-SSE0000		63.0	60.0	30.0	9000W 18.0Ω
S600-4T071-SSE0000		73.0	71.0	37.0	11000W 15.0Ω
S600-4T090-SSE0000		92.0	90.0	45.0	13500W 12.0Ω



S600系列产品安装尺寸和质量

Installation size and weight



控制器型号 Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	安装孔径Φ(mm) Installation Diameter	质量(kg) Weight	机箱型号 Type
S600-2S009-SSE0000	206	187	306	287	300	135	200		6.5	4	Size A
S600-2S014-SSE0000											
S600-2T009-SSE0000											
S600-2T014-SSE0000											
S600-2T017-SSE0000											
S600-2T024-SSE0000											
S600-2T032-SSE0000	226	207	332	313	326	176	220		6.5	6	Size B
S600-2T036-SSE0000											
S600-2T042-SSE0000											
S600-4T048-SSE0000	292	230	504	493	470	187	285	477	6.5	18	Size C
S600-4T060-SSE0000											
S600-4T071-SSE0000											
S600-4T090-SSE0000											

S610系列产品特点

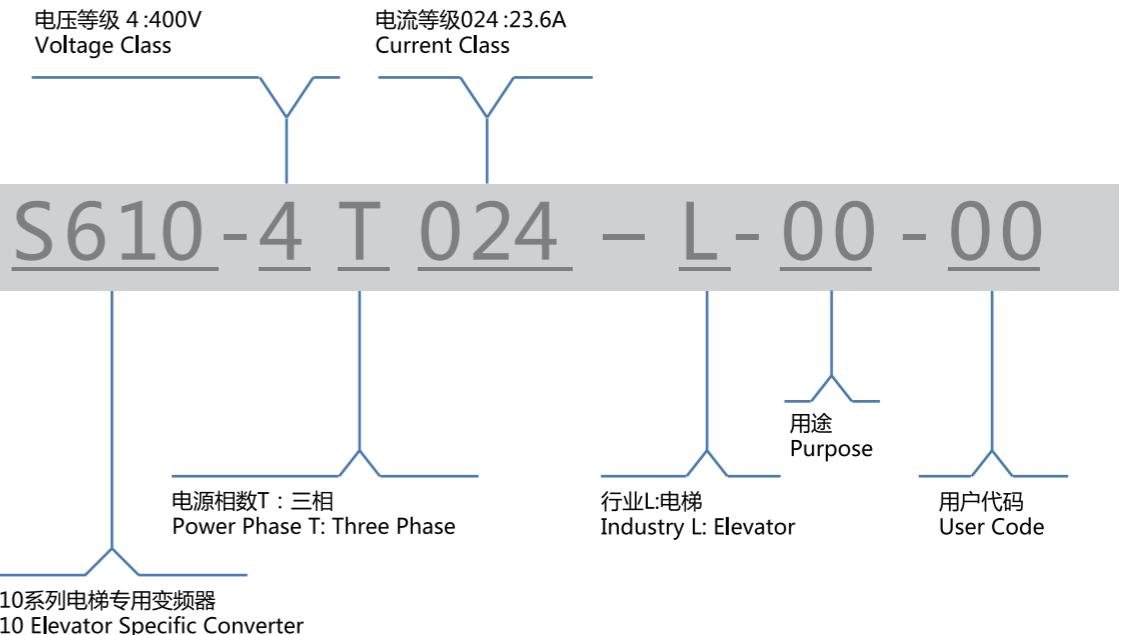
Features

- 支持同步控制和异步控制
- 同步机免角度学习
- 静止状态电机参数完整学习
- 电流环参数自学习，舒适感免调试、使用方便
- 无称重启动，高级防倒溜车功能
- 闭环控制系统：距离控制，N条曲线自动生成，直接停靠，超短层自动识别
- 异步机专用开环控制功能，性能优异，保护完善
- 支持UPS运行，可实现在停电后的自动救援
- 具有使能检测、抱闸接触器控制、运行接触器控制、强迫减速判断、井道自动学习、位置异常保护校正、超速保护、提前开门、触点粘连保护等多种电梯专用功能，使电梯控制彻底变得简单
- 基极封锁功能
- 支持手机调试功能（安卓、苹果）



S610系列产品命名规则

Naming Rule of S610 series products



- It is available to control by synchro motor and asynchro motor
- synchro motor free angle learning
- Motor parameter is completely learnt by itself at static state
- Current loop parameter self-learning, it is convenient to use and feel comfortable without debugging
- No weighted start, advanced antidumper functions.
- Closed control system: N of curves generate automatically and recognize by itself as lift is beyond short floors, control distances to stop directly
- Special open loop control of asynchro motor with excellent performance and complete protection
- UPS is automatically operating when electricity is cut off
- Enable detection, brake contactor control, running contactor control, forced deceleration judgment, well automatic learning, position abnormal protection and correction, overspeed protection, in advance open the door, contact adhesion protection and other elevator special functions, which make it simple for lift control
- Base blockade function
- Mobile debugging (android, iphone)

S610系列适用范围

Applicable elevator types of S610



梯速≤4m/s，最大楼层64层
Rated speed ≤4m/s, the Highest floor is 64



S610系列产品综合技术参数

Comprehensive technical index of S610 series products

输入 Input	额定电压；频率 Rated voltage; frequency	单相 , 220V ; 50Hz/60Hz Single phase	三相 , 220V ; 50Hz/60Hz Three phase	三相 , 380V ; 50Hz/60Hz Three phase
	允许电压工作范围 Range of permissible voltage operating	单相/三相220V : 187V~264V Single phase/ Three phase	三相380V : 323V~456V Three phase	
	输入电压不平衡度 Imbalance of input voltage	< 2%		
	输入电源频率范围 Range of input power frequency	< 2%		
输出 Output	电压 Voltage	单相三相交流0V ~ 输入电压 Three phase AC 0V~ input voltage		
	频率 Frequency	0Hz ~ 100Hz		
	过载能力 Overload	150%过载90s , 180%过载5s Over 150%, 90s; Over 180% , 5s		
	控制方式 Ways of control	无PG磁通矢量控制 , 带PG磁通矢量控制 , V/F控制 Flux vector control without no PG, Flux vector control with PG, V/F control		
主要控制性能 The main control performance	调制方式 Ways of debugging	空间矢量PWM调制 Space Vector PWM		
	起动转矩 Start torque	0.5Hz时150%额定转矩 (无PG磁通矢量控制) , 0 Hz时180%额定转矩 (带PG磁通矢量控制) 0.5Hz, 150% of rated torque(without flux vector control); 0 Hz, 180% of rated torque (with PG flux vector control)		
	速度控制精度 Accuracy of speed control	无PG磁通矢量控制 : ±0.5% ; 带PG磁通矢量控制 : ±0.05% Flux vector control without PG : ±0.5%; flux vector control with PG: ±0.05%		
	频率分辨率 Frequency resolution	数字设定 : 0.01Hz ; 模拟设定 : 最大频率×0.05% Digital setting : 0.01Hz ; Analog setting : maximum frequency×0.05%		
	转矩提升 Torque improvement	手动转矩提升0.0 ~ 30.0% Torque improvement by hands: 0.0~30.0%		
	V/F曲线 V/F curve	四种方式 : 1种用户设定V/F曲线方式和3种降转矩特性曲线方式 (2.0次幂、1.7次幂、1.2次幂) Four kinds of way: one way that the user sets the curve method of V/F and three curve methods decreasing torque features(2.0 power, 1.7 power, 1.2 power)		
	自动限流 Automatic current limiting	对运行期间电流自动限制 , 防止频繁过流故障跳闸 Automatically limit current during operation period to prevent tripping caused by frequent overcurrent		
	运行命令通道 Operation order channel	操作面板给定、控制端子给定 Set operating board and set control terminal		
运行功能 Operation	频率给定通道 Frequency set channel	数字给定、模拟电压给定、模拟电流给定 Digital given, set analog voltage, set analog current		
	数字输入端子 Digital input terminal	10路数字多功能输入 , X1 ~ X10 , 高低电平可选 Functional digital input of 10-way, X1~ X10, optional high and low leveling		
	数字输出端子 Digital output terminal	2路数字多功能输出 , D1为NPN/PNP型可选 , D2为NPN型输出 Functional digital output of 2-way, D1 is optional for NPN or PNP, D2 is output of NPN		
	模拟输入端子 Analog input terminal	2路模拟输入 , AI1 : -10V ~ +10V ; AI2 : 0V ~ +10V/0 ~ 20mA 2-way analog input, AI1 : -10V ~ +10V ; AI2 : 0V ~ +10V/0 ~ 20mA		
	模拟输出端子 Analog output terminal	2路模拟输出 , AO1 : -10V ~ +10V ; AO2 : 0V ~ +10V/0 ~ 20mA 2-way analog output, AO1 : -10V ~ +10V ; AO2 : 0V ~ +10V/0 ~ 20mA		
	继电器输出端子 Relay output terminal	3路可编程继电器输出 , 其中2路为常开输出 , 1路为常闭/常开输出 3-way programmable relay output, including 2-way is normally open output, 1-way is normally closed/open output		
	LED显示 LED display	可显示IO状态、设定频率、输出频率、输出电压、输出电流等参数 Display IO status, setting frequency, output frequency, output voltage, output current		
	参数拷贝 Data copy	使用操作面板可实现参数的快速复制 Quickly copy information through operation board		
操作面板 Operation board	使用场所 Using places	室内 , 不受阳光直晒 , 无尘埃、腐蚀性气体、可燃性气体、油雾、水蒸气、滴水或盐份等 Inner of home, free from direct sunlight, no dust, corrosive gases, flammable gases, oil mist, water vapor, drip or salt		
	海拔高度 Altitude	1000m以上降额 使用 , 每增加100m , 输出电流降低4%额定电流 Reduce the rated current to use when it is more than 1000m, and every 100m increase, the output current is reduced by 4 % of rated current		
	环境温度 Environment temperature	- 10 ~ + 40°C (环境温度在40 ~ 50°C , 请降额使用) - 10 ~ + 40°C (among temperatur of 40~50°C, please reduce the rated to use)		
	湿度 Humidity	20% ~ 90%RH , 无水珠凝结 20% ~ 90%RH, waterless beads coagulate		
	振动 Vibration	小于5.9 m/s ² (0.6g) Less than 5.9 m/s ² (0.6g)		
	存储温度 Temperature of storage	- 40 ~ + 70°C		
	保护功能 Protection	过流保护、过压保护、欠压保护、过热保护、过载保护、模块保护等 Over-current protection, over-voltage protection, under-voltage protection, over-temperature protection, overload protection, module protection, etc.		
其他 Others	防护等级 Protection classes	IP20		
	冷却方式 Cooling method	风冷 , 带风扇控制 Air-cooled, with fan control		
	安装方式 Ways of installation	壁挂式 Wall-mounted		

S610系列产品选型

S610 series products type selection

系统型号 Type	输入电压 Input Voltage	输入电流(A) Input Current	输出电流(A) Output Current	适配电机(kw) Matching Motor	制动电阻 (功率W/阻值Ω) Braking Resistance
S610-2S009-L0000	单相交流 187V~264V Single AC 187V~264V	10.0	8.8	2.2	650W 75.0Ω
S610-2S014-L0000		15.0	14.0	3.7	1000W 50.0Ω
S610-2T009-L0000		10.0	8.8	2.7	650W 75.0Ω
S610-2T014-L0000		15.0	14.0	3.7	1000W 50.0Ω
S610-2T017-L0000		19.0	17.0	4.0	1200W 40.5Ω
S610-2T024-L0000		25.0	23.6	5.5	1800W 27.0Ω
S610-2T032-L0000		34.0	32.0	7.5	2500W 19.5Ω
S610-2T036-L0000		38.0	36.0	11.0	3000W 16.0Ω
S610-2T042-L0000		43.0	42.0	13.5	3500W 14.0Ω
S610-2T048-L0000		49.0	48.0	15.0	4500W 11.0Ω
S610-2T060-L0000	三相交流 187V~264V Three phase AC 187V~264V	63.0	60.0	18.5	5500W 9.0Ω
S610-2T071-L0000		73.0	71.0	22.0	6500W 7.5Ω
S610-2T090-L0000		92.0	90.0	30.0	9000W 5.5Ω
S610-4T009-L0000		10.0	8.8	3.7	1200W 136.0Ω
S610-4T014-L0000		15.0	14.0	5.5	1800W 91.0Ω
S610-4T017-L0000		19.0	17.0	7.5	2500W 65.0Ω
S610-4T024-L0000		25.0	23.6	11.0	3500W 47.0Ω
S610-4T032-L0000		34.0	32.0	15.0	4500W 36.0Ω
S610-4T036-L0000		38.0	36.0	18.5	5500W 30.0Ω
S610-4T042-L0000		43.0	42.0	20.0	6000W 27.0Ω
S610-4T048-L0000		49.0	48.0	22.0	7000W 23.0Ω
S610-4T060-L0000		63.0	60.0	30.0	9000W 18.0Ω
S610-4T071-L0000		73.0	71.0	37.0	11000W 15.0Ω
S610-4T090-L0000		92.0	90.0	45.0	13500W 12.0Ω





控制器型号 Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	安装孔径Φ(mm) Installation Diameter	质量(kg) Weight	机箱型号 Type	
S610-2S009-L0000	206	187	306	287	300	135	200	6.5	4	Size A		
S610-2S014-L0000												
S610-2T009-L0000												
S610-2T014-L0000												
S610-2T017-L0000												
S610-2T024-L0000												
S610-4T009-L0000												
S610-4T014-L0000												
S610-4T017-L0000												
S610-4T024-L0000												
S610-2T032-L0000	226	207	332	313	326	176	220	6.5	6	Size B		
S610-2T036-L0000												
S610-2T042-L0000												
S610-4T032-L0000												
S610-2T048-L0000												
S610-2T060-L0000												
S610-2T071-L0000												
S610-2T090-L0000	292	230	504	493	470	187	285	477	6.5	18	Size C	
S610-4T048-L0000												
S610-4T060-L0000												
S610-4T071-L0000												
S610-4T090-L0000												
S610-4T090-L0000												

S660系列产品特点
Features

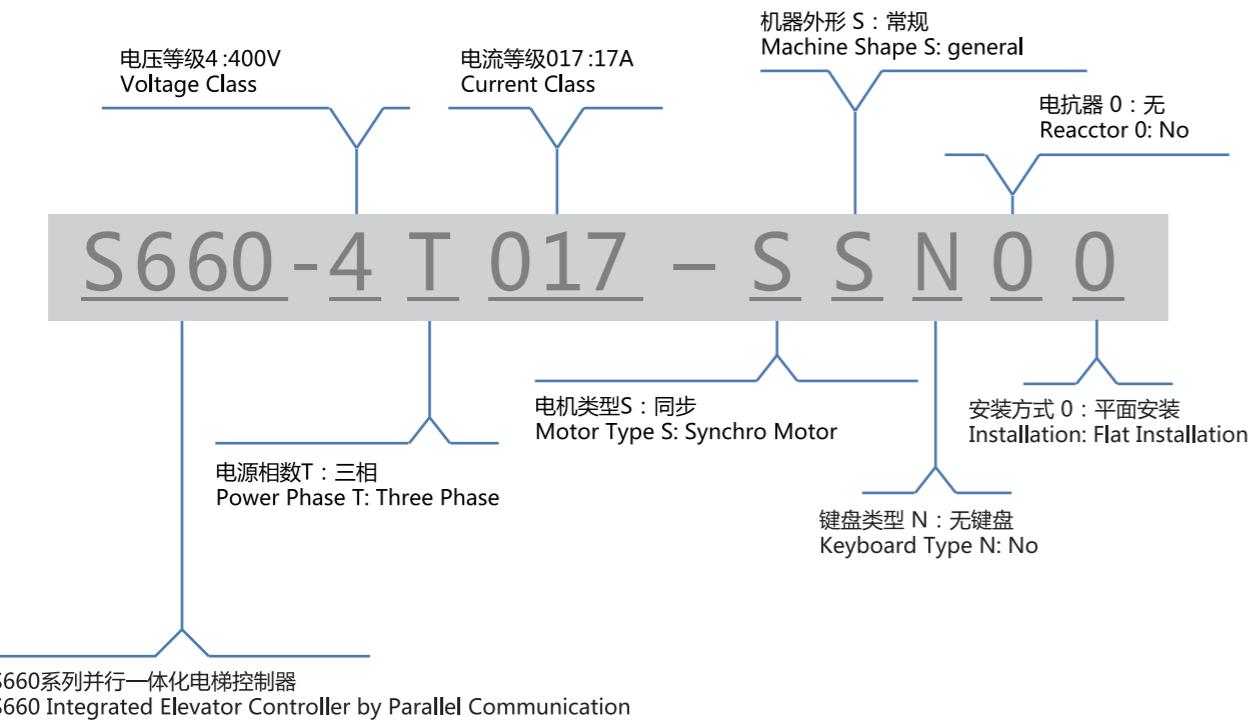
- 驱动与控制有机结合，性能优异;
- 一体化设计结构更紧凑，减小控制柜体积
- 全防护结构设计，人机界面友好，防护等级更高
- 双32位处理芯片
- 支持同步控制和异步控制
- 支持异步开环控制，无需编码器即可实现电梯控制运行
- 标准配置满足8层全集选应用
- 同步机免角度学习
- 静止状态电机参数完整学习
- 电流环参数自学习，舒适感免调试、使用方便
- 无称重启动，高级防倒溜车功能
- N条曲线自动生成，超短层自动识别，距离控制，直接停靠
- 26路按钮输入输出，24路开关量输入，22路继电器输出
- 显示输出方式：二进制编码、BCD码、七段码、格雷码
- 丰富的门控功能设定，满足货梯门控多样性的需求
- 支持UPS运行，停电后自动救援运行
- 支持手机调试功能
- 支持远程监控功能（以太网、GPRS）



- Combination of drive and control with excellent performance
- Reduce space of the controller cabinet
- A fully enclosed design with higher protection
- Dual 32-bit processing chip
- It is available to control by synchro motor and asynchro motor
- Be able to operate open loop of asynchro motor without encoder to control lift;
- Standard configuration to apply 8 floors selection;
- Synchro motor free angle learning
- Motor parameter is completely learnt at static state
- Current loop parameter self-learning, it is convenient to use and feel comfortable without debugging
- No weighted start, advanced antidumper functions.
- N of curves generate automatically and recognize by itself as lift is beyond short floors, control distances to stop directly
- Input and output of 26-way button, on-off output of 24-way, relay output of 22-way
- Ways of display output: Binary code, BCD code, 7-segment code, Gray code
- Various functions setting to satisfy different requirements
- UPS operation is automatically operating after electricity is cut off
- Mobile debugging (Android, iPhone)
- Remote monitors (Ethernet, GPRS)

S660系列产品命名规则

Naming Rule



S660系列并行一体化电梯控制器
S660 Integrated Elevator Controller by Parallel Communication

S660系列产品适用范围

Applicable elevator types of S660



别墅梯、货梯、对电气系统控制
成本苛刻的客梯工况
Lower costs electric system of
passenger condition for Villa
elevator, dumbwaiters;



标准：梯速≤1.75m/s；
Standard: rated speed ≤1.75m/s



非标：梯速>1.75m/s时，
控制器支持CAN串行通信控制
Non-standard: rated speed
> 1.75m/s, controller can operate
serial communication control by CAN

S660系列产品综合技术参数

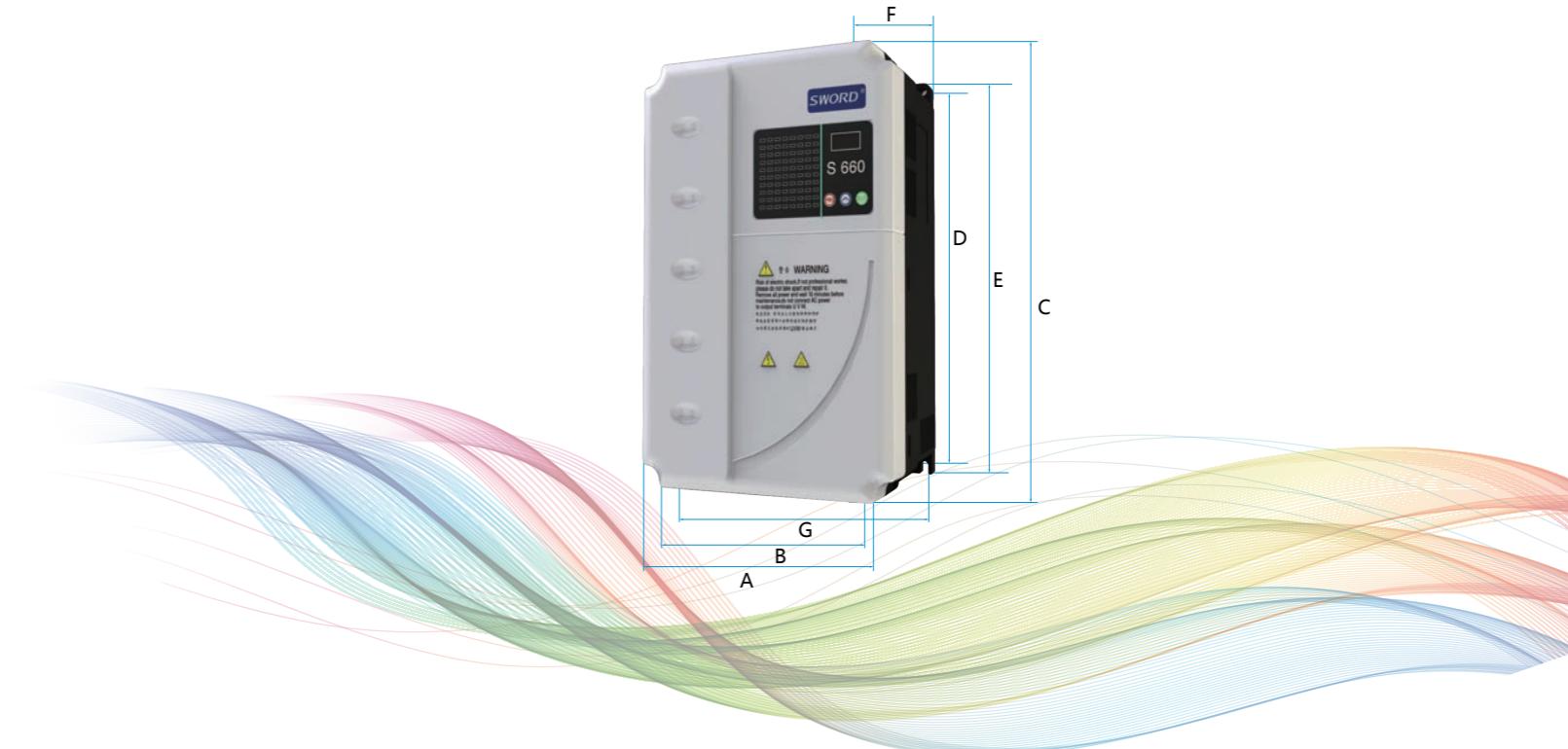
Comprehensive technical index of S660 series products

基本特性	最大楼层 Maximum floor	16层 16 storey
	电梯运行速度 Elevator speed	标准最大1.75m/s Standards max. speed: 1.75m/s
	群控数量 Group control quantity	标准4台，非标8台 4 for standard, 8 for nonstandard
	通讯方式 Communication mode	CAN总线、RS422、UART、SPI CANBUS, RS422, UART, SPI
控制特性	控制方式 Control mode	闭环矢量控制 Close-loop vector control
	最大启动力矩 Maximum starting torque	200% (带PG矢量控制) 200% (with PG vector control)
	速度控制范围 Speed control range	1:1000(带PG矢量控制) 1:1000 (with PG vector control)
	速度控制精度 Speed control precision	±0.05% (带PG矢量控制25±10°C) ±0.05% (with PG vector control 25±10°C)
	转矩响应 Torque response	≤10ms (带PG矢量控制) ≤10ms (with PG vector control)
	频率控制范围 Frequency control range	0~60Hz
	频率精度 Frequency accuracy	±0.01%
	频率设定分辨率 Setting resolution ratio for frequency	±0.01Hz/50Hz
	无称重启动补偿 Control mode	≤10ms (带PG矢量控制) ≤10ms (with PG vector control)
	最大启动力矩 No weighing start compensation	在选用正余弦编码器情况下，系统2ms内能完成负载所需的转矩补偿 If it utilizes Sin-Cos encoder, the system could complete the torque compensation required by load within 2ms.
Encoder	过载能力 Overload capacity	额定输出电流的150% 90s，额定输出电流的180% 5s，额定输出电流230% 3s 150% 90s of rated output current, 180% 5s of rated output current, 230% 3s of rated output current
	制动力力 Breaking capacity	额定电流的150%(外接制动电阻),额定输出电流90A及以下控制器内置制动单元 150% of rated current (externally connect break resistor), rated output current is 90A and below should built-in brake unit for controller.
	加速度范围 Accelerated speed range	0.1~2.0m/s ²
	载波频率 Carrier Frequency	2~15kHz
I/O signal control	同步电机编码器 Encoder of the synchronous motor	标配正余弦编码器接口 (5V), ERN1387/487 Standard equip Sin-Cos encoder port (5V), ERN1387/487
	异步电机编码器卡 Encoder card of the asynchronous motor	支持ABZ编码器 (OC、推挽) Support ABZ encoder (OC, push-pull)
	无编码器卡 Without encoder card	支持异步交流电机无编码器控制 AC asynchro motor control without encoder
	可编程光耦隔离普通输入 Programmable Opto-isolator common input	24路，使用外接24VDC电源，高电平输入有效 24-way, external 24DC power, effective input with high level
	可编程光耦隔离高压输入 Programmable Opto-isolator high voltage input	4路，标准使用110VDC、110VAC；可定制220VDC、220VAC 4-way, standard 110VDC, 110VAC; customizable 220VDC, 220VAC
I/O signal control	可编程继电器输出 Programmable relay output	21路常开触点，10A 30V DC或10A 125V AC, 1路常闭触点 21-way normally open contact, 10A 30V DC; 10A 125V AC, 1-way normally closed contact
	CAN通讯接口 CANBUS	1路；用于并联群控通信 One-way; group control by parallel communication
	串行通讯接口 Serial communication interface	1路RS485：保留 1-way RS485: reserve 1路RJ45手持键盘，1路UART远程监控，1路USB蓝牙 1-way RJ45 handheld keyboard, 1-way UART remote monitor, 1-way USB Bluetooth
	可编程指令按钮输入输出 Input and output of programmable order button	标准26路，可扩展至50路 Standard 26-way, scalable to 50 way

保护功能 Protection	过压保护 Overvoltage protection	200V级：主回路母线电压在400VDC以上停机 200V class: more than 400VDC, the main circuit bus voltage is stopped 400V级：主回路母线电压在800VDC以上停机 400V class: more than 800VDC, the main circuit bus voltage is stopped
	欠压保护 Under voltage protection	200V级：主回路母线电压在190VDC以下停机 200V class: under 190VDC, the main circuit bus voltage is stopped 400V级：主回路母线电压在380VDC以下停机 400V class: under 380VDC, the main circuit bus voltage is stopped
	模块保护功能 Module protection	过热、过流、直通等故障保护 Fault protection such as overheating, over current, and pass-through
	过载保护 Overload protection	包括变频器过载保护和电机过载保护 Overload protection of converter and motor
	输入缺相保护 Protection of input loss phase	运行过程中，若输入缺相，关断输出，保护驱动控制器 If system is input loss phase, output is cut off to protect drive controller during the operation process
	输出相间短路保护 Protection output of phase short circuit	运行过程中任意两相短路，关断输出，保护驱动控制器 Any two phases occur short circuit, then the output is cut off to protect drive controller
	输出接地短路保护 Protection of output ground short circuit	运行过程中任意一相对地短路，关断输出，保护驱动控制器 Any phase occurs output ground short circuit, then the output is cut off to protect drive controller
	制动电阻短路保护 Protection of braking resistor short circuit	当制动电阻发生短路时，制动单元会及时保护 If braking resistor occurs short circuit, the braking unit takes measures to protect in time
	脉冲编码器检测 The detection of pulse encoder	PG断线检测 PG disconnection detection
	散热片过热保护 Protection of heat sink overheat	通过热敏电阻实时监测散热片温度，超过保护点即输出保护 Real-time monitoring of heat sink temperature through thermistor, if the temperature is beyond the protection point leading to output protection
	曳引机过温保护 Protection of traction machine overheat	当曳引机温度过高时会输出保护功能 PG disconnection detection

S660系列产品安装尺寸和质量

Installation size and weight



S660系列产品选型

S660 series products type selection

系统型号 Type	输入电压 Input Voltage	输入电流(A) Input Current	输出电流(A) Output Current	适配电机(kw) Matching Motor	制动电阻(功率W/阻值Ω) Braking Resistance
S660-2S009-SSE0000	单相交流 187V~264V Single AC 187V~264V	10.0	8.8	2.2	650W 75.0Ω
S660-2S014-SSE0000		15.0	14.0	3.7	1000W 50.0Ω
S660-4T009-SSE0000		10.0	8.8	3.7	1200W 136.0Ω
S660-4T014-SSE0000		15.0	14.0	5.5	1800W 91.0Ω
S660-4T017-SSE0000		19.0	17.0	7.5	2500W 65.0Ω
S660-4T024-SSE0000		25.0	23.6	11.0	3500W 47.0Ω
S660-4T032-SSE0000	三相交流 323V~456V Three phase AC 323V~456V	34.0	32.0	15.0	4500W 36.0Ω
S660-4T036-SSE0000		38.0	36.0	18.5	5500W 30.0Ω
S660-4T042-SSE0000		43.0	42.0	20.0	6000W 27.0Ω
S660-4T048-SSE0000		49.0	48.0	22.0	7000W 23.0Ω
S660-4T060-SSE0000		63.0	60.0	30.0	9000W 18.0Ω
S660-4T071-SSE0000		73.0	71.0	37.0	11000W 15.0Ω
S660-4T090-SSE0000		92.0	90.0	45.0	13500W 12.0Ω

控制器型号 Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	安装孔径Φ(mm) Installation diameter	质量(kg) Weight	机箱型号 Type
S660-2S009-SSE0000											
S660-2S014-SSE0000											
S660-4T009-SSE0000											
S660-4T014-SSE0000											
S660-4T017-SSE0000											
S660-4T024-SSE0000											
S660-4T032-SSE0000											
S660-4T036-SSE0000	226	207	332	313	326	176	220		6.5	6	Size B
S660-4T042-SSE0000											
S660-4T048-SSE0000	292	230	504	493	470	187	285	477	6.5	18	Size C
S660-4T060-SSE0000											
S660-4T071-SSE0000											
S660-4T090-SSE0000											

S300扶梯一体化控制器

S300 integrated controller of escalator



S300系列产品特点

Features

- 集电机驱动、扶梯变频切换控制、扶梯逻辑部分功能于一身，结构紧凑，以更低的成本、更佳的配合，提高了扶梯的安全性和稳定性。
- 具有全变频控制、旁路变频控制、工频星角控制等多种控制方式，最大限度的满足不同客户的使用需求。
- 提供蓝牙接口，实现手机调试。手机调试助手设置账户管理，方便客户对扶梯操作人员的权限管理。
- 可以通过网卡与服务器相连接，将扶梯运行数据上传到服务器PC端进行监视，实现远程监控。
- 安全回路信号采集板使安全回路故障点检测定位简单快捷。
- 具有3种节能运行模式，控制方式更加灵活，大幅节约能量，延长扶梯机械结构的使用寿命。
- 丰富的Mini键盘功能，基本满足现场客户的调试工作。
- 插件板节省现场繁琐的接线工作，使现场安装维护工作更加便捷。
- 上下部安全回路信号检测功能大幅节省系统线缆，节约成本。



- Combining motor drive, variable frequency switching control and logic control of escalator into one controller, with lower cost, compact structure, excellent matching up to improve security and stability of escalators.
- Have various ways of control, such as full frequency control, bypass frequency control, power frequency star control, which greatly satisfy requirements of different customers.
- Provide Bluetooth interface for mobile phone debugging. It is able to set account management through phone debugging assistant to help our guests manage their operation staff.
- Connecting with Server via network card, operation data can be uploaded to Server PC to achieve remote monitor.
- Acquisition board of safe circuit signal makes it easy and quick for detecting fault point.
- Possessing 3 energy-saving operation modes and flexible control ways lead to achievement of increasingly saving energy, prolonging the service life of escalator's structure
- Various functions of Mini keyboards satisfy debugging work of people on site.
- Plug-in board saves the workload of wiring on site to make it convenient for installation and maintenance.
- Signal detection function of upper and lower safety circuit greatly saves cables with low cost.

S300系列扶梯产品命名规范

Naming rule

电压等级4:400V
Voltage Class

电流等级017:17A
Current Class

机器外形S：常规
Machine Shape S: general

用户代码
User Code

S300-4 T 017 - A S N 0 0 0 - 00

S300扶梯一体化控制器
S300 Integrated Controller of Escalator

电源相数T：三相
Power Phase T: Three Phase

安装方式0：平面安装
Installation: Flat Installation

键盘类型N：无键盘
Keyboard Type N: No

电机类型A：异步机
Motor Type: Asynchro Motor



S300系列扶梯产品综合技术参数

Comprehensive technical index of S300 series escalator products

输入 Input	电压 Voltage	三相交流0V~输入电压 Three phase communication 0V~ input voltage
	频率 Frequency	0Hz~100Hz
	过载能力 Overload	150%过载2min , 180%过载6s Over 150%, 2min; Over 180%, 6s
主要控制性能 The main control performance	控制方式 Ways of control	V/F控制 , 开环矢量 V/F control, open loop vector
	起动转矩 Start torque	0.5Hz时150%额定转矩 (开环矢量) If it is 0.5Hz, 150% of rated torque(open loop vector)
	速度控制精度 Accuracy of speed control	开环矢量 : ±0.5% Open loop vector
	频率分辨率 Frequency resolution	数字设定 : 0.01Hz Number setting : 0.01Hz
	转矩提升 Torque improvement	手动转矩提升0.0~30.0% Torque improvement by hands: 0.0~30.0%
	V/F曲线 V/F curve	四种方式：1种用户设定V/F曲线方式和3种降转矩特性曲线方式 (2.0次幂、1.7次幂、1.2次幂) Four kinds of way: one way that the user sets the curve method of V/F and three curve methods decreasing torque features(2.0 power, 1.7 power, 1.2 power)
	自动限流 Automatic current limiting	对运行期间电流自动限制 , 防止频繁过流故障跳闸 Automatically limit current during operation period to prevent tripping caused by frequent overcurrent
	运行命令通道 Operation order channel	操作面板给定、控制端子给定 Set operation board and set control terminal
运行功能 Operation	频率给定通道 Frequency set channel	数字给定 Digital setting
	数字输入端子 Digital input terminal	38路数字多功能输入 , X1~X38 , X1~X30低电平有效 , X31~X38高低电平可选 Multi-function input of 38 digital, X1~X38, X1~X30 with active low, X31~X38 with High and low optional
	数字输出端子 Digital output terminal	12路数字多功能输出 , 控制板OC输出；在插件板上转为继电器输出 Multi-function input of 12 digital, OC output from control board; it is available to turn to relay output
操作面板 Operation panel	板上LED显示 Display on panel LED	3位LED , 可显示输入X端子状态 , 故障情况等 It can display input X terminal status with 3-digit LED, and also display faults, etc
	手持LED键盘 LED keyboard holding by hands	使用手持LED键盘可实现参数的快速复制 , 可显示设定频率、输出频率、输出电压、输出电流等参数 It is available to quickly copy parameter through this function and can display set frequency, output frequency, output voltage and output current and so on
使用环境 Using environment	使用场所 Using places	室内 , 不受阳光直晒 , 无尘埃、腐蚀性气体、可燃性气体、油雾、水蒸气、滴水或盐份等 Inner of home, free from direct sunlight, no dust, corrosive gases, flammable gases, oil mist, water vapor, drip or salt
	海拔高度 Altitude	1000m以上降额使用 , 每增加100m , 输出电流降低4‰额定电流 Reduce the rated current to use when it is more than 1000m, and every 100m increase, the output current is reduced by 4‰ of rated current
	环境温度 Environment temperature	- 10~ + 40°C (环境温度在40~50°C , 请降额使用) - 10~ + 40°C (among temperatur of 40~50°C, please reduce the rated to use)
	湿度 Humidity	20%~90%RH , 无水珠凝结 20%~90%RH, waterless beads coagulate
	振动 Vibration	小于5.9 m/s² (0.6g) Less than 5.9 m/s² (0.6g)
	存储温度 Temperature of storage	- 40~ + 70°C
	保护功能 Protection	过流保护、过压保护、欠压保护、过热保护、过载保护、模块保护等 Over-current protection, over-voltage protection, under-voltage protection, over-temperature protection, overload protection, module protection, etc
其他 Others	冷却方式 Cooling method	风冷 , 带风扇控制 Air-cooled, with fan control
	安装方式 Ways of installation	壁挂式 Wall-mounted

S300系列产品安装尺寸和质量

Installation size and weight



控制器型号 Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	安装孔径Φ(mm) Installation Diameter	质量(kg) Weight	机箱型号 Type
S300-4T009-ASK0000											
S300-4T014-ASK0000	206	187	306	287	300	135	200		6.5	4	Size A
S300-4T017-ASK0000											
S300-4T024-ASK0000											
S300-4T032-ASK0000											
S300-4T036-ASK0000	226	207	332	313	326	176	220		6.5	6	Size B
S300-4T042-ASK0000											
S300-4T048-ASK0000											
S300-4T060-ASK0000											
S300-4T071-ASK0000	292	230	504	493	470	187	285	477	6.5	18	Size C
S300-4T090-ASK0000											

S310紧凑型扶梯专用变频器

S310 Specific Inverter of Compact Escalator



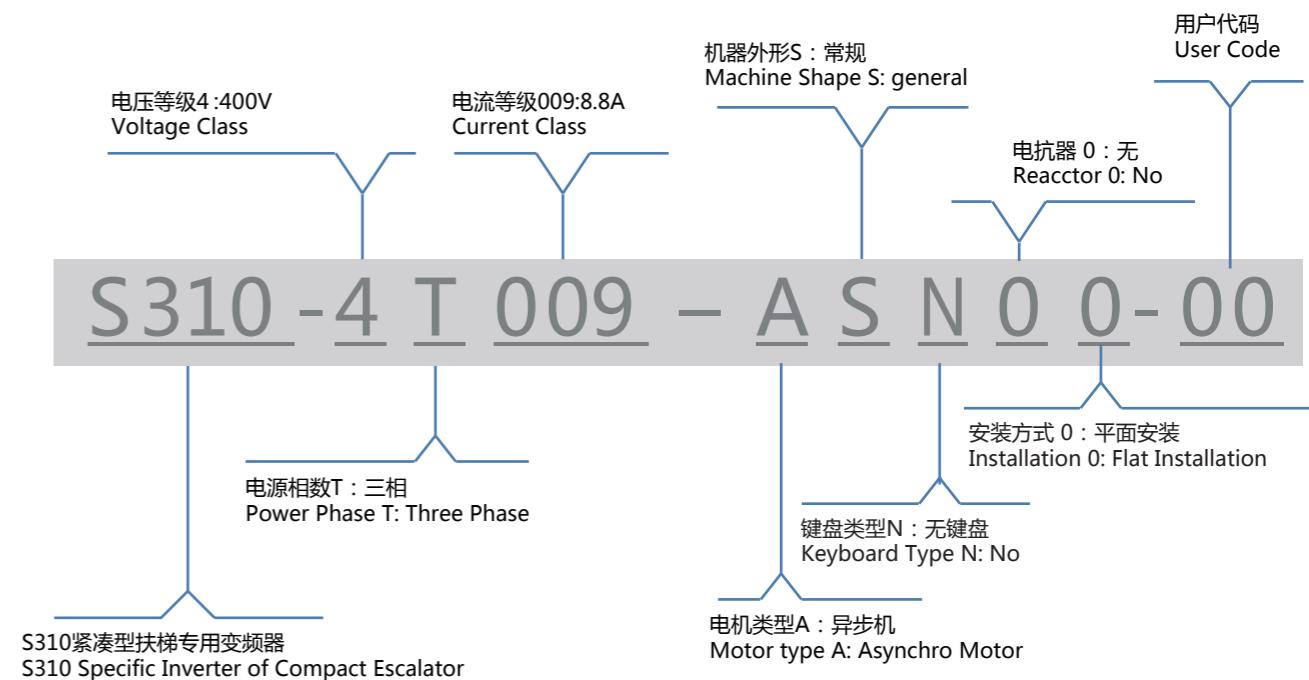
S310紧凑型扶梯专用变频器主要产品特点

Features

- 集电机驱动、扶梯变频切换控制功能于一身，结构紧凑，以更低的成本、更佳的配合，提高了扶梯的安全性和稳定性。
- 具有全变频控制、旁路变频控制、工频星角控制等多种控制方式，最大限度的满足不同客户的使用需求。
- 提供蓝牙接口，实现手机调试。手机调试助手设置账户管理，方便客户对扶梯操作人员的权限管理。
- 具备全键盘功能，完全满足现场客户的调试工作。
- 体积紧凑，节省安装空间，搭配附件防护等级实现IP21
- 内置EMI滤波器和电抗器，满足EN61000-3-12谐波标准及EN61800-3中C2的标准,EN12015/EN12016标准
- 长寿命，高可靠性（环温50度，10年寿命）
- Integrate motor drive and control functions of escalator frequency conversion switching into one with compact structure, lower cost and excellent matching up, improving escalator's security and stability.
- Have various control ways such as full frequency control, bypass frequency control, industrial frequency star control, and greatly satisfying different people's requirements.
- Through Bluetooth interface, it can achieve mobile phone debugging. Setting account management by phone debugging assistant, it is convenient for management staff to limit scope of authority.
- Having function of full keyboard, it is able to completely finish work on site.
- With compact volume, saving installation space, and accessory protection class satisfy the standards of IP21.
- Built-in EMI filter and reactor to meet EN61000-3-12 harmonic standards and C2, EN12015/EN12016 standards in EN61800-3;
- Have long life cycle with high reliability (Environment temperature 50 degrees, 10-year life)

S310系列紧凑型扶梯产品命名规范

Naming rule



S310系列紧凑型扶梯产品综合技术参数

Comprehensive technical information of S310 series compact escalator products

输入 Input	电压 Voltage	3相380V(-15%)-500VAC(+10%) Three phase
	频率 Frequency	45 - 66Hz
输出 Output	电压 Voltage	三相交流0V~输入电压 Three phase AC 0V- input Voltage
	频率 Frequency	0Hz~100Hz
主要控制性能 The main control performance	过载能力 Overload	150%过载2min , 180%过载6s , 200%过载2s Over 150%, 2min; over 180% , 6s Over 200%,2s
	控制方式 Ways of control	开环矢量±0.5% Open loop vector
	起动转矩 Start torque	0.5Hz时150%额定转矩 (开环矢量) If it is at 0.5Hz, 150% of rated torque(open loop vector)
	速度控制精度 Accuracy of speed control	开环矢量 : ±0.5% Open loop vector
	频率分辨率 Frequency resolution	数字设定 : 0.01Hz Digital setting : 0.01Hz
	转矩提升 Torque improvement	手动转矩提升0.0~30.0% Torque improvement by hands: 0.0~30.0%
	V/F曲线 V/F curve	四种方式：1种用户设定V/F曲线方式和3种降转矩特性曲线方式 (2.0次幂、1.7次幂、1.2次幂) Four kinds of way: one way that the user sets the curve method of V/F and three curve methods decreasing torque features(2.0 power, 1.7 power, 1.2 power)
	自动限流 Automatic current limiting	对运行期间电流自动限制，防止频繁过流故障跳闸 Automatically limit current during operation period to prevent tripping caused by frequent overcurrent
	载波频率 Carrier frequency	0.5kHz ~ 16kHz 可根据负载特性，自动调整载波频率。 Automatically adjust carrier frequency in accordance with rated load capacity
	转速追踪 Speed tracking	时间小于300ms Time less than 300ms
运行功能 Operation function	运行命令通道 Operation order channel	操作面板给定、控制端子给定、CAN通讯口给定。可通过多种方式切换 Set operation panel, set control terminal, set CAN communication interface, which can change by multiple methods
	频率给定通道 Frequency set channel	数字给定 Digital setting
	数字输入端子 Digital input terminal	9路数字多功能输入，输入高低电平可选 Multi-function input of 9 digital, Input high and low optional
	数字输出端子 Digital output terminal	7路常开继电器输出，1路常开常闭继电器输出 Normally open relay output of 7-way, normally open and closed relay output of 1-way
操作面板 Operation panel	板上LED显示 Display on LED	全键盘，5位LED，可显示输入X端子状态，故障情况等 It is able to display the condition of input X terminal and faults with full keyboard and 5-digit LED
	手持LED键盘 LED keyboard holding by hands	使用手持LED键盘可实现参数的快速复制，可显示设定频率、输出频率、输出电压、输出电流等参数 It is available to quickly copy parameter through this function and can display set frequency, output frequency, output voltage and output current and so on
使用环境 Using environment	使用场所 Using places	室内，不受阳光直晒，无尘埃、腐蚀性气体、可燃性气体、油雾、水蒸汽、滴水或盐份等 Indoor, free from direct sunlight, no dust, corrosive gases, flammable gases, oil mist, water vapor, drip or salt
	海拔高度 Altitude	1000m以上降额使用，每增加100m，输出电流降低4‰额定电流 Reduce the rated current to use when it is more than 1000m, and every 100m increase, the output current is reduced by 4 ‰ of rated current
	环境温度 Enviroment temperature	- 10 ~ + 50°C (环境温度在40 ~ 50°C , 请降额使用) - 10 ~ + 50°C (among temperature of 40~50°C, please reduce the rated to use)
	湿度 Humidity	20% ~ 90%RH , 无水珠凝结 20% ~ 90%RH , waterless beads coagulate
	振动 Vibration	小于5.9 m/s ² (0.6g) Less than 5.9 m/s ² (0.6g)
	存储温度 Temperature of storage	- 40 ~ + 70°C
	振动 Vibration	小于5.9 m/s ² (0.6g) Less than 5.9 m/s ² (0.6g)
	保护功能 Protection	过流保护、过压保护、欠压保护、过热保护、过载保护、模块保护等 Over-current protection, over-voltage protection, under-voltage protection, over-temperature protection,
其他 Others	冷却方式 Cooling method	风冷，带风扇控制 Air-cooled, with fan control
	安装方式 Ways of installation	壁挂式 Wall-mounted

S310系列扶梯产品安装尺寸和质量

Installation size and weight



产品型号 Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	安装孔径Φ(mm) Installation Diameter	质量(kg) Weight	机箱型号 Type
S310-4T009-ASK0000	206	187	306	287	300	135	200	6.5(5.5)	7	Size A
S310-4T014-ASK0000										





S200门机专用控制器主要产品特点
Features

- 支持同步电机控制和异步电机控制
- 支持AB、ABZ编码器同步电机闭环矢量控制
- 两种控制模式：距离控制、速度控制
- 多重关门受阻判断机制，保证安全的同时，关门受阻自动开门
- 无编码器控制时，能实现低频超大扭矩（小于0.2Hz,150%电机转矩），大幅提升控制性能，防止撞门撞人
- 高性能开关门曲线算法防止超调，实现快速开关门，且避免撞门
- 具有受阻力矩自动识别和关门受阻重开门功能
- 多种自动学习功能：自动学习电机，编码器相序自动调整，自动自动学习门宽，自动学习受阻力矩，自动学习系统惯量，自动学习优化运行曲线。
- 可作为轿顶门机一体化控制器使用，省去轿顶板

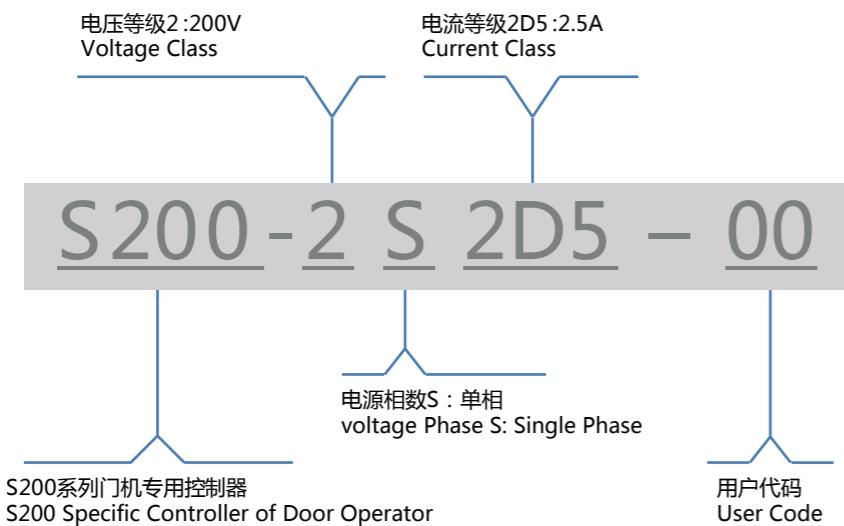
- It is available to control by synchro motor and asynchro motor
- It is also able to support closed loop vector control by AB,ABZ encoder
- Two ways of control: distance control, speed control
- Several kinds of detecting ways for door close with obstruction and automatically open the door meanwhile keeping safety
- It can achieve the maximum torque (less than 0.2Hz, and 150% of motor torque) with low frequency if there is no encoder, greatly improve control performance and stop hit door and hurt people
- High-performance curve algorithm of switching the door prevents bringing overshoot to achieve quick open and closed the door and to avoid hit the door
- Possess the function of automatic recognize of the blocked torque and the function of reopen the door of closed the door with obstruction
- Multiple self-learning functions: automatically learning motor, automatic debugging of encoder's phase sequence, automatic learning door width by itself, automatically learning the blocked torque, learning systematic inertia by itself, automatically learning optimized operation curve
- It can be used as integrated door controller (integrated car top board and door motor) and save car top board.

S200门机系列产品综合技术参数
S200 comprehensive technological information

输入	额定电压；频率 Rated voltage; frequency	单相 220V ; 50Hz/60Hz Single phase
	允许电压工作范围 Range of permissible voltage operating	单相 220V : 198V ~ 242V Single phase
	输入电压不平衡度 Imbalance of input voltage	< 3%
	输入电源频率范围 Range of input power frequency	±5%
输出	输出电压 Overload	0 ~ 输入电压 Input voltage
主要控制性能	频率 Frequency	0Hz ~ 100Hz
	过载能力 Overload	150%额定电流60s , 180%额定电流3s Over 150%, 60s; Over 180%, 3s
	控制方式 Ways of control	带PG磁通矢量控制 Flux vector control with PG
	运行模式 Ways of running	门机控制运行模式、通用变频器运行模式 Operation mode of door operator control, operation mode of general inverter
	调制方式 Ways of debugging	空间矢量PWM调制 Space Vector PWM
	起动转矩 Start torque	0.5Hz时200%额定转矩 (带PG磁通矢量控制) 0.5Hz, 150% of rated torque without flux vector control;
	频率精度 Frequency precision	数字设定：最大频率±0.01% Digital setting: the maximum frequency
	频率分辨率 Frequency resolution	数字设定：0.01Hz Number setting: 0.01Hz
	加减速曲线 Acceleration and deceleration curves	直线加减速 Linear acceleration and deceleration
	自动限流 Automatic current limiting	对运行期间电流自动限制，防止频繁过流故障跳闸 Automatically limit current during operation period to prevent tripping caused by frequent overcurrent
主要控制功能	编码器及连接方式 Encoder and the connection way	支持普通ABZ编码器方式下的交流永磁同步电机闭环控制；编码器开路集电极输出或推挽输出方式 It's able to conduct by permanent synchro motor closed loop control under the way of general ABZ encoder's method of open collector output or push-pull output
	门机运行方式 The operation way of door operator	门机运行方式：距离运行方式 Distance operation way
	门机到位保持力矩 Door operator maintain torque as it is in place	门机到位保持力矩分段设置 Segment settings of door operator maintain torque as it is in place
	运行命令通道 Operation order channel	操作面板给定、控制端子给定、通讯给定 Set operation panel, set control terminal, set communication
	频率给定通道 Frequency set channel	操作面板给定 Set operating board
运行功能	多功能端子输入信号 Input signal of multi-function	8路DI输入:外部复位信号、光幕保护信号、触板保护信号、慢速开关门信号、门锁信号、运行使能信号等 8路 DI input: external reset signal, protection signal of safety curtain for door, protection signal of touch tablet, switch signal at low speed, door interlock signal, operation enable signal
	继电器输出 Relay output	2路常开, 1路常闭触点容量：250VAC/3A DC30V/1A 2 way normally open, 1 way normally closed contact capacity.
	通讯功能 Communication function	1路CAN通信，1路RS485通信；支持通信控制功能 1-way CAN communication, 1-way RS485 communication; it supports communication control function
	操作面板 Operation board	LED显示 LED display 可显示设定频率、输出频率、输出电压、输出电流等参数 Display setting frequency, output frequency, output voltage, output current
使用环境	使用场所 Using places	室内，不受阳光直晒，无尘埃、腐蚀性气体、可燃性气体、油雾、水蒸气、滴水或盐份等 Inner of home, Free from direct sunlight, no dust, corrosive gases, flammable gases, oil mist, water vapor, drip or salt
	海拔高度 Altitude	1000m以上降额使用，每升高1000m降额10% Reduce the rated current to use when it is more than 1000m, and every 100m increase, is reduced by 10% of rated current
	环境温度 Vibration	-10 ~ +40°C (环境温度在40 ~ 50°C , 请降额使用) -10 ~ +40°C (among temperatur of 40~50°C, please reduce the rated to use)
	湿度 Humidity	5% ~ 95%RH , 无水珠凝结 5% ~ 95%RH, waterless beads coagulate
	振动 Vibration	小于5.9 m/s² (0.6g) Less than 5.9 m/s² (0.6g)
	存储温度 Temperature of storage	- 40 ~ +70°C
其他	保护功能 Protection	过流保护、过压保护、欠压保护、过热保护、过载保护等 Overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection and so on
	防护等级 Protection classes	IP21
	冷却方式 Cooling method	自然冷却 Natural cooling
	安装方式 Ways of installation	壁挂式 Wall mounting type
	效率 Efficiency	≥95%

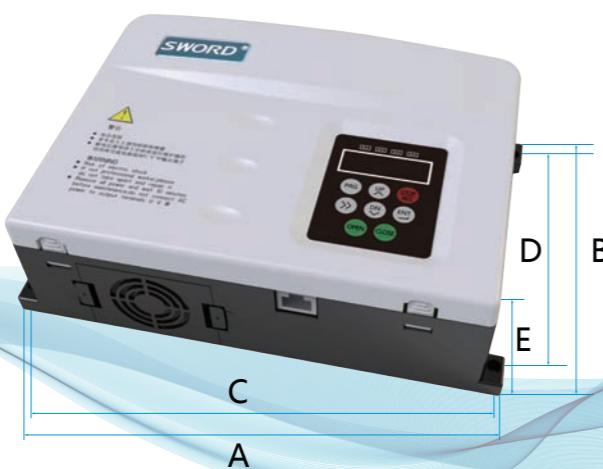
S200系列门机产品命名规范

Name rule



S200系列门机产品安装尺寸和质量

Installation size and weight



控制器型号 Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	安装孔径Φ(mm) Installation Diameter	质量(kg) Weight
S200-2S1D3	217	147	205	129	198	66	5.5*6.5	0.85

S210机电一体化门电机

S210 electromechanical integrated door motor



- 将控制器并入门电机内部，实现机电一体化高度融合设计，减小产品体积30%以上
- 无编码器控制时，能实现低频超大扭矩（小于0.2Hz,150%电机转矩），大幅提升控制性能，防止撞门撞人
- 具有现场一键调试，门电机参数免调试功能
- 高性能开关门曲线算法防止超调，实现快速开关门，且避免撞门
- 具有受阻力矩自动识别和关门受阻重开门功能
- 支持AB、ABZ编码器同步电机闭环矢量控制
- 两种控制模式：距离控制、速度控制
- 多种自动学习功能：自动学习电机，编码器相序自动调整，自动自动学习门宽，自动学习受阻力矩，自动学习系统惯量，自动学习优化运行曲线
- 丰富的Mini键盘功能，基本满足现场客户的调试工作

- Combination of door operator and controller to achieve the result of highly integrated design, reducing more than 30% of its volume;
- To complete the maximum torque and low frequency without encoder control, greatly improve control performance to prevent hitting the door and hurting people;
- Have the ability of one-button debugging on-site and no debugging for parameters of door operator;
- The design of curve algorithm of high-performance switch can stop bringing overshoot to quickly open the door and avoid hit the door
- Have the function of automatically recognize blocked torque and reopen the door as it is closing the door;
- Support close loop vector control of synchro motor by AB, ABZ encoder.
- Two control models: distance control and speed control;
- Multiple ways of self-learning functions: automatic learning motor, automatic adjustment of encoder's phase sequence, automatically learning door width by itself, learning blocked torque by itself, learning systematic inertia by itself, learning optimized operation curve by itself;
- Multiple functions of Mini keyboards to satisfy debugging work on site;

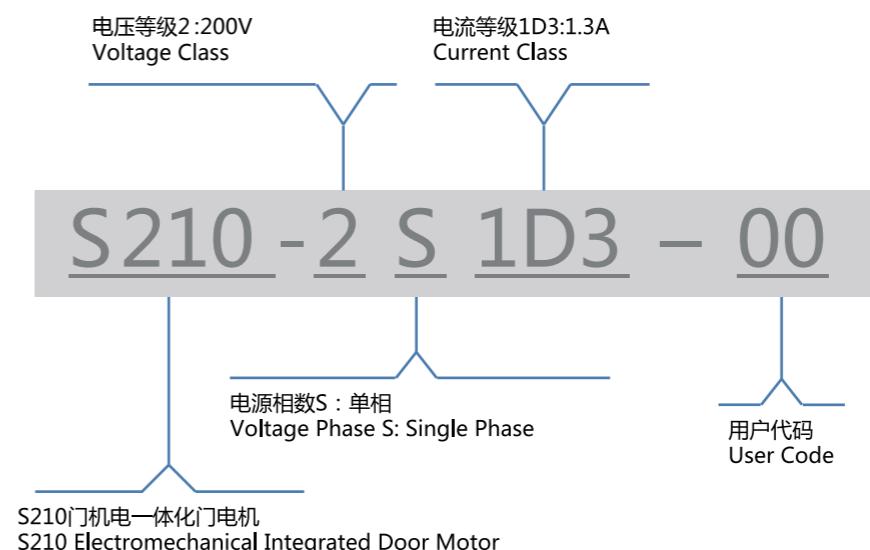
S210产品综合技术参数

Comprehensive technical index of S210

输入 Input	额定电压；频率 Rated voltage; frequency	单相 220V ; 50Hz/60Hz Single phase
	允许电压工作范围 Range of permissible voltage operating	单相 220V : 198V ~ 242V Single phase/Three phase
	输入电压不平衡度 Imbalance of input voltage	< 3%
	输入电源频率范围 Range of input power frequency	±5%
输出 Output	电压 Voltage	0 ~ 输入电压 Three phase AC 0V~ input voltage
	频率 Frequency	0Hz ~ 100Hz
	过载能力 Overload	150%过载60s, 180%过载3s Over 150%, 60s; Over 180%, 3s
	控制方式 Ways of control	带PG磁通矢量控制 Flux vector control with PG
主要控制性能 The main control performance	调制方式 Ways of debugging	空间矢量PWM调制 Space vector PWM
	起动转矩 Start torque	0.5Hz时200%额定转矩 (带PG磁通矢量控制) If it is at 0.5Hz, 200% of rated torque (flux vector control with PG)
	频率精度 Accuracy of frequency	最大频率 × ±0.01% Digital setting: the maximum frequency × ±0.01%
	频率分辨率 Frequency resolution	数字设定 : 0.01Hz Digital setting: 0.01Hz
主要控制功能 Major control functions	加减速曲线 Acceleration and deceleration curves	直线加减速 Linear acceleration and deceleration
	运行模式 Operation modes	门机控制运行模式、通用变频器运行模式 Operation modes of door operator, operation modes of general inverter
	自动限流 Automatic current limiting	对运行期间电流自动限制，防止频繁过流故障跳闸 Automatically limit current during operation period to prevent tripping caused by frequent overcurrent
	编码器及连接方式 Encoder and connection modes	支持普通ABZ编码器方式下的交流永磁同步电机闭环控制； AC permanent synchro motor closed-loop control is under the way of general ABZ encoder 编码器开路集电极输出或推挽输出方式 The method of output and push-pull output of encoder open collector
运行功能 Operation function	门机运行方式 The operation mode of door operator	门机运行方式 : 距离运行方式 Operation mode of distance
	门机到位保持力矩 Door operator maintain torque as it is placed	门机到位保持力矩分段设置 Segment settings of door operator maintain torque as it is in place
	运行命令通道 Operation order channel	操作面板给定、控制端子给定、通讯给定 Set operation board, set control terminal, set communication
	频率给定通道 Frequency set channel	操作面板给定 Set operation board
操作面板 Operator panel	多功能端子输入信号 Input signal of multi-functional terminal	外部复位信号、光幕保护信号、触板保护信号、慢速开关门信号、门锁信号、运行使能信号等 External reset signal, protection signal of safety curtain for door, protection signal of touch tablet, switch signal at low speed, door interlock signal, operation enable signal
	RS485通讯功能 RS485 Communication function	通讯命令给定与门机运行状态反馈 Set communication order and feedback of door operator operation
使用环境 Environment	LED显示 LED display	可显示设定频率、输出频率、输出电压、输出电流等参数 Displayable set frequency, output frequency, output voltage, output current and so on
	使用场所 Using places	室内，不受阳光直晒，无尘埃、腐蚀性气体、可燃性气体、油雾、水蒸汽、滴水或盐份等 Using in indoor, free from direct sunlight, without dusts, causticity gas, flammability gas, oil fog, vapor, drip, salt and so on
	海拔高度 Altitude	1000m以上降额使用，每升高1000m降额10% If it is more than 1000m, it will use by decreasing the rated; if increase 1000m, it will decrease 10% of the rated
	环境温度 Enviroment temperature	-10 ~ +40°C (环境温度在40 ~ 50°C , 请降额使用) (Enviroment temperature is 40 ~ 50°C, please take use of by reducing the rated)
	湿度 Humidity	5% ~ 95%RH , 无水珠凝结 No water droplets freeze
	振动 Vibration	小于5.9 m/s² (0.6g) Less than 5.9 m/s² (0.6g)
其他 Others	存储温度 Temperature of storage	- 40 ~ + 70°C
	保护功能 Protection	过流保护、过压保护、欠压保护、过热保护、过载保护等 Overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection and so on
	防护等级 Protection classes	IP21
	冷却方式 Cooling method	自然冷却 Natural cooling
	安装方式 Ways of installation	壁挂式 Wall mounting type
	效率 Effeciency	≥95%

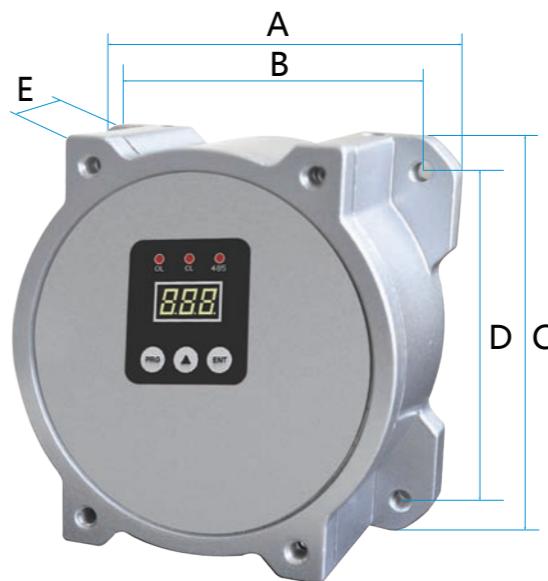
S210系列产品命名规范

Naming rule



产品安装尺寸和质量

Installation size and weight



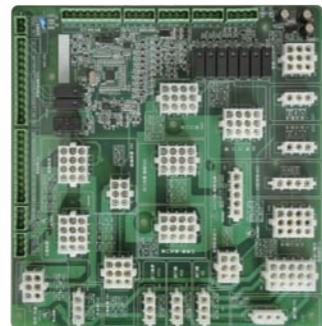
控制器型号 Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	安装孔径(mm) Installation Diameter	质量(kg) Weight
S210-2S1D3	140	115	140	116	65	5.5	3.2

S600轿顶板
S600 Top Car Board

用途：用于采集开关/空载/满载/超载/门到位信号等，并将其传输给控制器，实现控制开门，到站照明等功能。
For receiving the signals of no-load/overload, open/closed door in-place, Light curtain/shield panle, and outputting open /closing door ,arrival gong signals etc



轿顶门机控制三合一板
Top Car Board with the motor controller and interface of communication
Model/型号：SW-CIB-D10
Dimension/尺寸：294*223*39



轿顶二合一板
Top Car Board with interface of communication
Model/型号：SW-CIB-10
Dimension/尺寸：232*217*39



轿顶板
Top Car Board
Model/型号：FTE901
Dimension/尺寸：152*99*32

S600指令板
S600 Instruction Board

指令板
按钮指令的采集和按钮指示灯的输出
Instruction Board
For button instrucitons sampling and outputing of button indicatioin.



Model/型号：FCE900-2.0
Dimension/尺寸：158*96*23

指令扩展板
通过级联方式扩展16个内召按钮，最大可实现64层内选呼梯
Instruction Expansion Board
To expand car call buttons of 16 by mode of cascade ,and the max car call is up to 64 floors



Model/型号：FEE900
Dimension/尺寸：122*96*16

群控板
Group Control Board



用途：用于电梯群控控制
Be used for elevator group control
Model/型号：FGE900
Dimension/尺寸：218*134*18

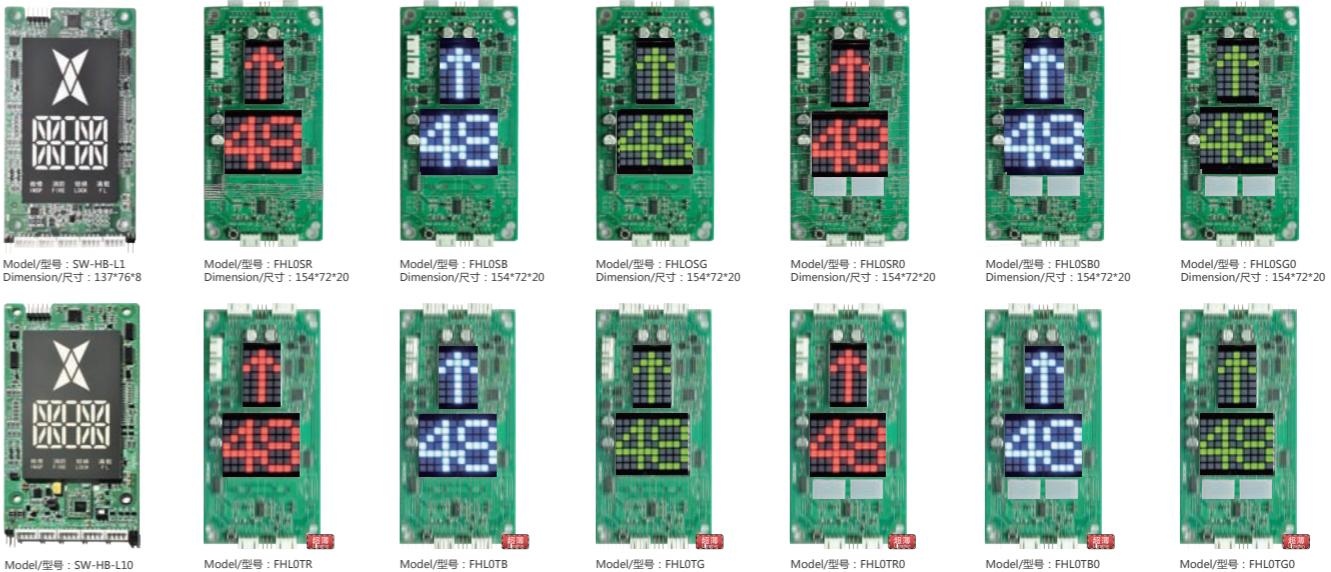
外呼板
Hall Outside Serial Board

厅外串行板

用于接收处理呼梯、VIP、消防和锁梯开关、输出到站钟、显示电梯楼层、电梯状态及故障代码。点阵颜色可分为红色、蓝色、绿色；安装方式为竖向

Hall Outside Serial Board

Used for receiving Call Lift, VIP, Fire and Lock Lift Switch signals, outputting Arrival Chime, displaying floor numbers, lift state and error code. The lattice colors include red, blue and green. Installation: Vertical Installation

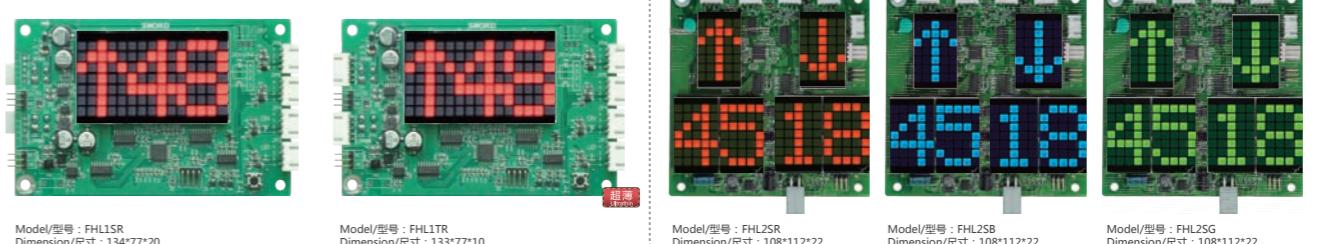


横向厅外串行板

用于接收处理呼梯、VIP、消防和锁梯开关、输出到站钟、显示电梯楼层、电梯状态及故障代码。点阵颜色可分为红色、蓝色、绿色；安装方式为横向

Horizontal Hall Outside Serial Board

Used for receiving Call Lift, VIP, Fire and Lock Lift Switch signals, outputting Arrival Chime, displaying floor numbers, lift state and error code. The lattice colors include red, blue and green. Installation: Horizontal Installation



超薄Mini外呼

用于接收处理呼梯、VIP、消防和锁梯开关，以及输出到站钟，输入输出端口可多功能定义。显示电梯楼层、电梯状态及故障代码，兼容横向及竖向安装

Slim Mini Hall Call Board

Receiving and processing signal of Car Calling ,VIP , fire And Lock Lift Switch ,outputting Arrival Gong, I/O port could be redefined, displaying lift floors, lift state, and fault code ,both horizontal and vertical installation are available



无显示厅外串行板

用于接收处理呼梯、锁梯和厅门锁开关，以及输出到站钟

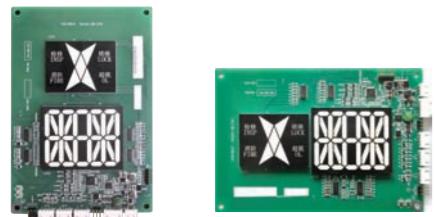
Non-display Hall Outside Serial Call Board

Receiving and processing the signal of Car Calling ,lift Lock And Hall Lock Switch ,outputting Arrival Going



外呼板
用于接收处理呼梯、VIP、消防和锁梯开关，输出到站钟，显示电梯楼层、电梯状态及故障代码
Outside Serial Call Board

Used for receiving and disposing signal of Lift Calling, VIP, Fire and Lock Lift Switch , Outputting Arrival Chime, Displaying Floor Numbers, Lift State and Error Code



Model/型号 : SW-HB-C0H
Dimension/尺寸 : 173*126*8



Model/型号 : SW-HB-C0H
Dimension/尺寸 : 173*126*8



Model/型号 : FHS0BW-0
Dimension/尺寸 : 173*126*8



Model/型号 : FHC0S0
Dimension/尺寸 : 147*74*10



Model/型号 : FHC0T0
Dimension/尺寸 : 147*78*16



Model/型号 : FHS0BW06-0(1.0)
Dimension/尺寸 : 147*78*12



Model/型号 : FHS0BW06-0(1.0)
Dimension/尺寸 : 173*126*15.6



Model/型号 : FHS0BW06-0(1.0)
Dimension/尺寸 : 173*126*15.6

GPRS监控卡 Gprs Monitor Card

用途：通过GPRS监控卡接入物联网，实现电梯远程监控和故障诊断
Be used for connecting with internet,monitoring the operation state of the elevator, realizing remote diagnosis and parameters load



Model/型号 : SW-IOT-2000
Dimension/尺寸 : 66*51*22.2

编码器卡 Encoder Card

用途：动力机为异步电机时，异步编码器卡可实现集电极开路输出和推挽输出。
Asynchronous encoder card can be realized with open-collector outputs and push-pull output when the power machine is an asynchronous motor.



带分频输出ABZ编码器卡(S610用)
Frequency divider output ABZ encoder card(For S610)



带分频输出sinicos编码器卡 (S610用)
Frequency divider output sincos encoder card(For S610)



ABZ编码器卡 (S600用)
ABZ encoder card(For S600)

显示板 Car Display Board

轿厢显示板（大显示）
用于轿厢内部显示楼层，运行方向等信息
Car Display Board(Large Display)
Used for displaying the floor name and the operation direction



Model/型号 : FDLRR
Dimension/尺寸 : 133*105*10



Model/型号 : FDC007
Dimension/尺寸 : 180*130*21

防意外移动装置 UCMP

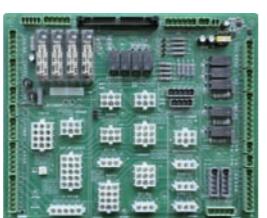
用途：轿厢意外移动检测子系统；实现电梯开门情况下的平层和在平层功能，可提高电梯的运行效率。
The car accident mobile detection subsystem realizes the horizontal and horizontal functions of the elevator under the open door condition, and improves the operation efficiency of the elevator.



Model/型号 : FFU001
Dimension/尺寸 : 129*72*18.3

UCMP及控制柜插件二合一板 Plug-in Board In Control Cabinet

用于实现规范插线和防止轿厢意外移动双重功能。
For realizing the double functions of standard inserting and preventing car accidental movement.



Model/型号 : SWE9-ECB-C5-2.0
Dimension/尺寸 : 260*210*30

以太网卡 Ethernet Card

用途：用于接局域网或互联网，可实现监视电梯运行状态，实现电梯远程故障诊断。
Be used for connecting with internet or LAN, monitoring the operation state of the elevator, realizing remote diagnosis and parameters load.



Model/型号 : SW-NB-ETH
Dimension/尺寸 : 45*70*18

解决方案 Solution

