



▶ SA710L

提升型变频器
Lift inverter



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SA710L可用于小高层以及别墅电梯的控制，达到启停平稳，平层精确的效果，提升乘坐体验。SA710L内置的UPS功能以及保护逻辑，确保了乘坐的安全性。使用SA710L还能达到节能以及延长机械寿命的效果。

SA710L frequency converter can be used to drive the elevators in mid-rise building;and villa elevators with smooth start-stop control and high accuracy for levelling which afford a good experience for the passenger. SA710L has integrated UPS and protection functions to ensure the safety.With SA710L, customer can also increase the mechanic lifetime and save energy.



● Large Torque with Low-frequency

低频力矩大、输出平稳，过整能力强，低频时(1-10Hz)输出150%额定转矩。

SA710L has excellent shaft performance especially at low speed with high torque ability (150% nominal torque from 1Hz) and stable speed control at different load.

● UPS function

支持UPS模式，停电时确保乘客安全送达。

SA710L has an integrated UPS function, supporting UPS as emergency power supply and automatically selecting the best direction to send the passenger to the floor safely.

● Control sequence for lift

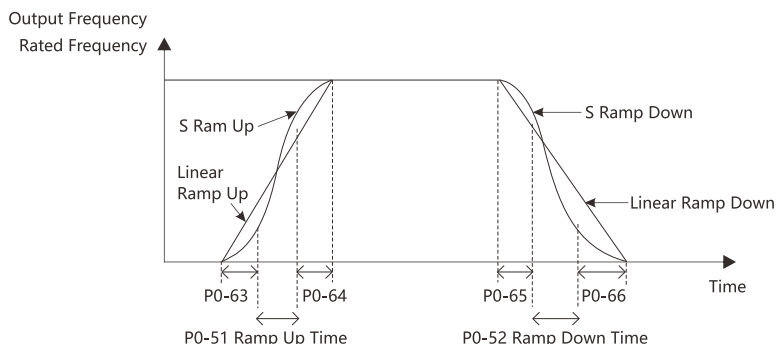
内置电梯应用抱闸时序控制逻辑功能，确保电梯稳定运行。内置精确平层控制算法，平层误差小。

With the built-in function of start-stop brake sequence, SA710L can control the elevator running stable and start/stop smoothly. SA710L also show good performance in levelling with very small levelling error.

● Support synchronous/Asynchronous motor, open/close loop

乘坐的舒适度是电梯的一项重要指标。SA710L在开环和闭环控制下，都能达到不同负载的精准速度控制。同时，在传统速度控制上，增加了灵活的S曲线设计，确保了电梯的启停平顺，乘坐舒适。

Comfortability of taking elevator is very important for customer. SA710L can achieve accurate speed control in both speed open loop and speed close loop at different load.Furthermore, SA710L has strong and flexible S curve function for speed control. These performance and functions ensure the smoothness and comfortability of taking the elevator.



▶ 技术规格 Technical Specifications

项目/Item		规格/Specification
输入/ Line in	电压/Voltage	单相/Single Phase:200~240V -15%~+10% 三相/3 Phase:380~480V -15%~+10%
	频率/Frequency	50/60Hz±5%
	最大不平衡度/Unbalance	3%
输出/ Out put	输出电压/Voltage	三相0~100% 输入电压 / 3 Phase 0~100% Line in voltage
	输出频率/Frequency	0~590Hz
主要 控制 规格/ Main Con- trol	控制模式/Control algorithm	V/F控制, 矢量控制; V/F control, Vector Control
	支持电机类型/Motor Type	异步电机, 同步电机 / IM, PM
	起动转矩/Start Torque	0.5Hz 150%
	过载能力/Overload	150% 60s, 180% 3s
	载波频率/Switching Frequency	2~16kHz
	速度设定解析度/ Speed resolution	数字: 0.001Hz, 模拟: 最大操作频率的0.5%/ Digital: 0.001Hz; Analogue: 0.5% of the maximal setup
	开环转速控制精度/Speed accu- racy at Speed Open Loop	额定速度的0.5% / 0.5% of rated speed
	控制命令来源/Source of Control Command	操作键盘, 数字端子, 通讯控制字/ Keypad, DI inputs, Bus communication
设定频率来源/ Set frequency source	键盘, 模拟量, 脉冲, 通讯给定/Keypad, Analogue inputs, Pulse inputs, Bus communication	
加减速时间/Acc/Dec	4组加减速时间/ 4 Group parameter for acc/dec:0.05~6000.00s	
基本 功能/ Basic Func- tions	速度开环, 速度闭环, 过程闭环控制, 转矩开环, 转矩闭环, 电机自学习、自动负载补偿、自动稳压功能、加减速曲线控制、直流制动、交流制动、速度限制, 转矩限制, 电流限制, 飞车启动、瞬停不停、自动复位等。(注意:如果您需要速度闭环或者转矩闭环控制, 您必须安装控制单元和PG卡) Speed open loop, speed close loop, Process close loop, torque control (with/without speed sensor, Motor auto tuning, Load compensation, DC compensation, DC brake/AC brake, speed limit, current/torque limit, fly start, KEB etc.(Note: Speed close loop or torque control with speed sensor will active only when a control unit and PG card are installed)	
	应用 功能/ Appli- cation Func- tions	端控多段速、可编程多段速, S ramp, 机械制动、计数器、过程PID, 点动控制等。 Multistage speed control by terminals or PLC function, S ramp, Mechanic brake, counter, ProcessPID, Jog etc.
保护 功能/ Prot- ection Func- tions	电源缺相保护, 欠压保护, 过压保护, 过流保护, 过载保护, 输出缺相保护, 输出短路保护, 输出接地保护, 变频器过热保护, 电机过热保护、信号断线保护等; Short circuit, Ground fault, line phase loss, under voltage, over voltage, over current, overload, over temperature, motor thermal protection, motor phase loss, control wire broken etc.	
控制 端子/ Con- trol Term- inals	RUN, F/R, DI1, DI2, DI3, DI4	数字输入模式/Digital inputs: Input type: NPN and PNP mode
	DO1	数字输出模式-开环控制/Digital Output: Open Collector; 0~40mA; 0~30V;
	RS+, RS-	RS485通讯-最大波特率/RS485 Communication: Max Baud Rate: 38400bit/s;
	FA-FB-FC KA-KB	继电器输出-电阻负载/Relay Output: Resistive Load: 250VAC 3A/30VDC 3A; 继电器输出-电感负载/Inductive Load: 250VAC 0.2A/24VDC 0.1A (cosφ=0.4);
	AI1,AI2	配置为数字输入默认值, 输入类型:NPN和 PNP;也可通过参数P17-55 配置为模拟输入/Be configured to Digital inputs default, Input type: NPN and PNP mode; also can be configured to analog inputs by parameter P17-55
	AO1	模拟输出/Analogue Output: 0~10V or 0~20mA
	VDD	24V电源/24V Power Supply: Max 200mA
	+10V	10V电源/10V signal power supply: Max 30mA
	GND	信号地/Signal Ground
PE	安全地/Safety Ground	

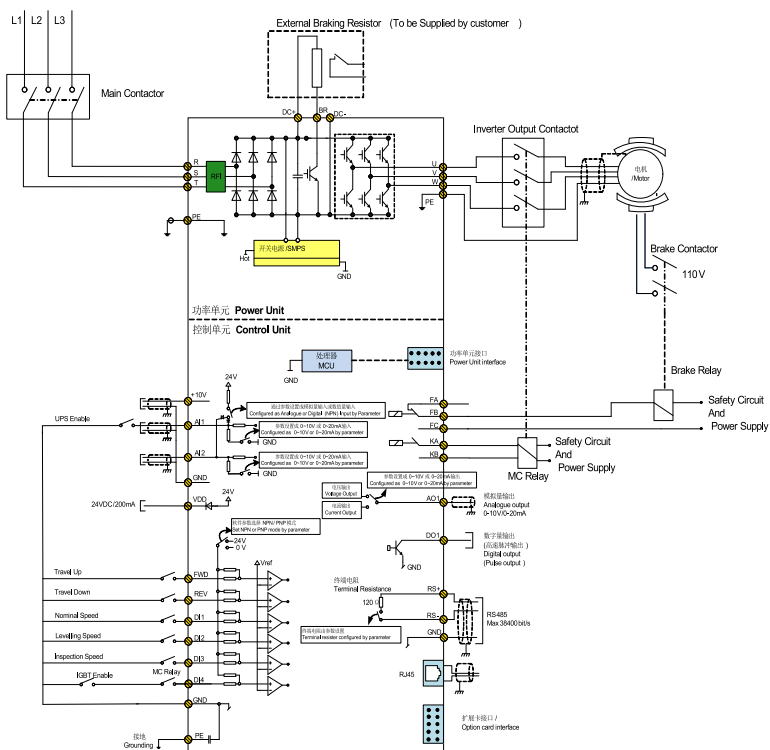
项目/Item		规格/Specification
工作环境/ Operation Environment	防护等级/Protection Level	IP20
	工作温度/Operation Ambient Temperature	运行范围 -10°C~60°C, 40°C 可额定负载运行, 40°C以上需降容使用/ Operating range: -10°C ~ 60°C Nominal current to 40°C, derate from 40°C
	工作湿度/Operation Ambient Humidity	5%-85% (95%以上不结露/ No condensing at 95%);
	振动/Vibration	1.14g
	最大海拔/Altitude	1000m, 1000m以上需降容使用 / 1000m, derate from 1000m
	电机电缆长度/ Motor cable length	屏蔽电缆: 50米; 非屏蔽电缆: 100米; / Shielded Cable: 50m; Un-shielded cable:100m
其他/ Others	制动单元/Brake Chopper	22kW及以下内置 / Built in as default up to 22kW

▶ SA710L 控制单元CU0L控制端子 SA710L Control unit CU0L control terminal

端子名/Name	功能/Function	规格/Specification
FWD,REV,D11, D12, D13, D14	数字量输入 端子/Digital inputs	输入类型/Input type:NPN~PNP 输入电压/Input Voltage:0~30V 输入阻抗/Input impedance:3.6kΩ D14可配置为脉冲输入, 脉冲输入范围: 0.00~100.00kHz/ D14 can be configured for pulse input, pulse input range: 0.00~100.00kHz
D14	脉冲输入端子/ Pulse Input	频率范围/Frequency Range: 0.00~100.00kHz 电源范围/Power Supply Range: 24V ± 20% 占空比范围/Duty Cycle Range: 40%~60%
DO1	数字量输出端子/ Digital Output	OC门输出电流范围/OC output current range:0~40mA OC门输出电压范围/OC output voltage range:0~30V 脉冲输出阻性负载能力/Pulse output resistive load capacity:>1kΩ 脉冲输出容性负载能力/Pulse output capacitive load capacity:<10nF 脉冲频率范围/Pulse frequency range:0.00~100.00kHz 占空比范围/Duty cycle range:40%~60%
RS+, RS-	RS485通讯/ RS485 Co- mmunication	最大通讯速率/Maximum 38400bit/s
FA-FB-FC (Relay1) KA-KB (Relay2)	继电器输出/ Relay Output	Resistive Load: 250VAC 3A/30VDC 3A; Inductive Load: 250VAC 0.2A/24VDC 0.1A (cosφ=0.4);
A11, A12	模拟量与数字 量输入/Analog and digital input	可通过参数选择为模拟量电压输入, 模拟量电流输入或者数字量输入; Configurable as analogue voltage inputs, analogue current inputs as well as digital inputs. 作为模拟量电压输入/As Analogue Voltage Inputs: 输入阻抗/Input Impedance: 10kΩ; 输入电压范围/Input Voltage Range: 0~10V; 作为模拟量电流输入/As Analogue Current Inputs: 输入阻抗/Input Impedance:≤ 500Ω; 输入电流范围/Input Current Range:0~20mA; 作为数字量输入/As Digital Inputs: 输入类型/Input Type:NPN,PNP 输入阻抗/Input Impedance:10kΩ; 电压范围/Input Voltage Range:0~30V
AO1	模拟量输出/ Analogue Output	可通过参数配置成 0~10V电压输出或者0~20mA电流输出/ Configurable as analogue voltage output or current output 电压输出时,负载阻抗大于500Ω;电流输出时,负载阻抗小于500Ω Can be configured as 0~10V voltage output or 0~20mA Current output, the load impedance is more than 500Ω at voltage output, and the load impedance is less than 500Ω at current output.
VDD	24V 电源/ Power Supply	最大输出电 / Max: 200mA
+10V	10V电源/ Power Supply	最大负载 / Max: 30mA

端子名/Name	功能/Function	规格/Specification
GND	信号地/Signal Ground	
PE	大地/Safety Ground	
其他端子/Other Terminals		
扩展卡接口/Connector for Option Card		用于外接扩展卡，位于控制单元底部/ Support one option card of different types, at the bottom of the Control Unit
外引键盘接口/Connect for External Keypad		用于外引控制键盘，位于控制单元右侧上部/ RJ45 for external keypad, at the top of right side of the Control Unit

SA710L 电气接线示意图 SA710L Wire Diagram



SA710L 产品型号规格 Product model specification

● 产品型号说明/Product model description

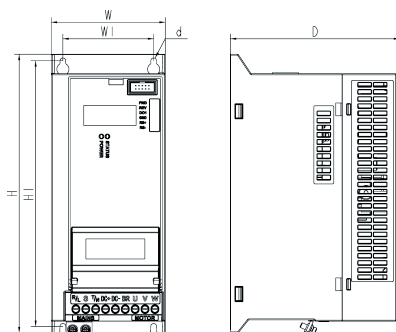
SA710L - 4T 7.5G / 11P - PU00 CU0L

序号/No.	型号/Model	说明/Description
1	SA710L	代表变频器SA710L系列/Represents the frequency converter SA710L series
2	4T	代表输入电压等级:4T~三相380V/Representstive input voltage level: 4T~three-phase 380V;
3	7.5G	G代表重载功率等级，7.5代表7.5kW G stands for heavy load power level, 7.5 stands for 7.5kW
4	11P	P代表轻载功率等级，11代表11kW P stands for light load power level, 11stands for 11kW
5	PU00	功率单元类型/Type of Power Unit
6	CU0L	控制单元类型/Type of control Unit

● SA710L型号规格/Model Specification

型号/ Model	功率/ Power (kW)	电压/ Voltage (V)	重载 输入/ Heavy load input(A)	重载 输出/ Heavy load output(A)	轻载 输入/ Light load input(A)	轻载 输出/ Light load output(A)	通风量/ Ventilation Volume (m ³ /h)
SA710L-4T4.0G/5.5P -PU00CU0L	4.0/5.5	3×380-440	15	9.6	18.6	11.2	45.5
		3×440-480	12.9	8.8	18.1	11	
SA710L-4T5.5G/7.5P -PU00CU0L	5.5/7.5	3×380-440	20.8	13	24.7	15.5	90
		3×440-480	19.1	11.8	21.4	14.2	
SA710L-4T7.5G/11P -PU00CU0L	7.5/11	3×380-440	27.1	17	33.1	22	90
		3×440-480	23.4	15.5	30.2	21	
SA710L-4T11G/15P -PU00CU0L	11/15	3×380-440	35.9	25	43.5	31	124
		3×440-480	31.4	22.7	39.8	28.5	
SA710L-4T15G/18.5P -PU00CU0L	15/18.5	3×380-440	43.4	32	50.2	36	170
		3×440-480	40.2	29.1	45.8	34	
SA710L-4T18.5G/22P -PU00CU0L	18.5/22	3×380-440	51.5	38	58.5	42.5	230
		3×440-480	46.1	34.5	54	40	
SA710L-4T22G/30P -PU00CU0L	22/30	3×380-440	61	45	79	56	272
		3×440-480	54.5	40.9	73	51	

● SA710L尺寸说明/SA710L Size description



机壳/ Frame	额定功率/ Rated Power	尺寸/Size (mm)					
		W	H	D	W1	H1	d
D2	3 × 380-480V 4.0 kW	88	215	155	70	205	4.5
D3	5.5-7.5 kW	100	250	161	80	240	4.5
D4	11-22 kW	170	370	179	145	355	6.5

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已获资质 Qualification

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