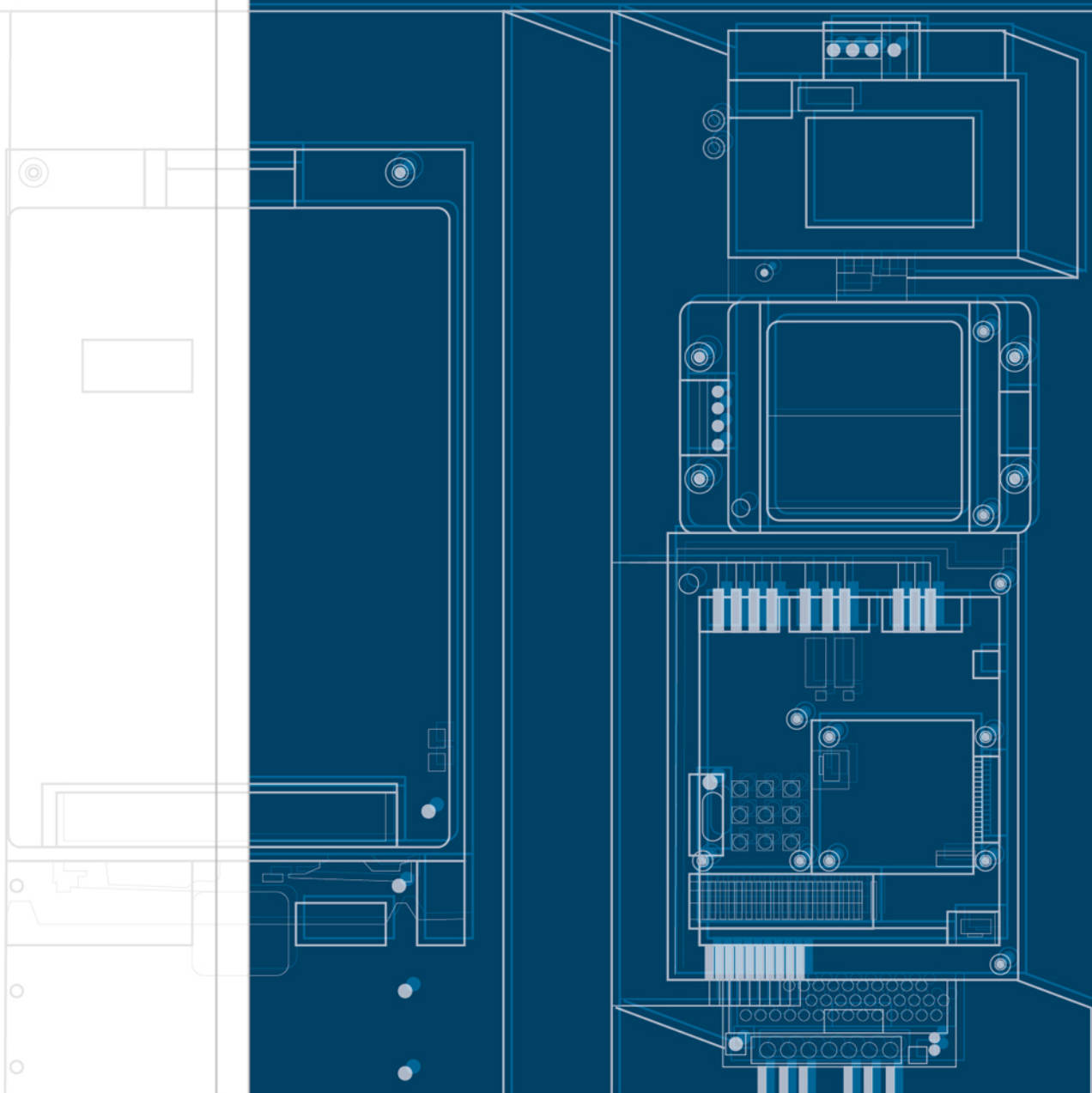


Control Cabinet of Elevator and Escalator v1.0



STEP®



CORPORATION Introduction

Shanghai STEP Electric Corporation-National High-tech Enterprise, National Innovative Enterprise, Shanghai IPR Model Enterprise, Shanghai Patent Model Enterprise and Shanghai Technology Center was founded in 1995 and the registered trademark is **STEP**. STEP Tenet is customer satisfaction, employee pride, community benefit. In December of 2010, STEP is listed in Shenzhen Stock Exchange, named STEP and No. 002527.

Facilities with the STEP global strategy, R&D centers and manufacturing centers have been established both in China and Germany. STEP Group, based in Electric Corporation, owns Shanghai Sigriner STEP Electric Co.,Ltd., Shanghai STEP Elevator Components Co.,Ltd., Shanghai STEP Electric Wire & Cable Co., Ltd., Shanghai STEP Software Technology Co.,Ltd., Yixin (Shanghai) International Trade Co., Ltd. and two overseas companies: STEP Sigriner Elektronik GmbH and Hong Kong STEP International Electric Holdings Co., Ltd..

STEP is the national Postdoctoral workstation. The company was also responsible for edition and revision of 7 national technical standards, gaining 77 patents (patentability of 23 inventions) and 29 software copyrights. The industrialization of inverter project has received financial support of the national key technology innovation fund and was listed in the National Torch Program; Vector-type inverter and control system have been identified as National Key New Products and been honored with Shanghai Science & Technology Invention Award, and servo drive system was an appointed product for independent innovation in Shanghai.

STEP specializes in industrial automation, energy efficiency and green energy resource. The products are widely applied in equipment manufacture, energy saving and renovation project, mainly concerned with elevator, harbor crane, hoisting, rubber & plastic, mining, metallurgy cement, solar power/wind power generation, CNC, package, municipal administration, etc. The products mainly include high/medium/low voltage inverter, integrated controller, SVC, servo drive; elevator control system, elevator parts, elevator wire and cables; STEP Software Technology Co., Ltd. is committed to providing customized intelligent management software products such as E-order, elevator IOT (including remote monitoring), ESMS-elevator service management software; Yixin International deals in relevant import and export businesses.

CORPORATION Culture

STEP Spirit

Face the world, pursue the best, stay always ahead of the line.

STEP Value

Faith, innovation, excellence.

STEP Tenet

Customer satisfaction, employee pride, community benefit.

STEP Mission

Provide the best control, drive and energy-saving products, serve the society, benefit the employees.

STEP Vision

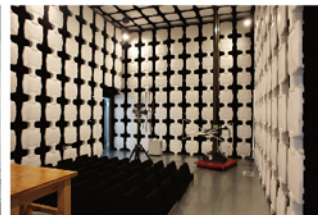
To be a world leading high-tech enterprise in electrical industry.



R&D



SMT



EMC



**Provide the best control, drive and energy-saving products,
serve the society, and benefit the employees**

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Elevator Control System Standard Function (table1)

No.	Name	No.	Name
01	Collective Control	23	Attendant Service
02	Inspection Operation	24	Independent Mode
03	Self-rescue Running	25	Display
04	Testing Mode	26	Fire Emergency Return Running
05	Clock Control	27	Automatic Correction of Shaft Information
06	Automatic Control for Door-opening Time	28	Elevator Lock-out
07	Open the Door by the Landing Call	29	Protection against Door-opening outside Door Zones
08	Pre-close the Door by Door-closing Button	30	Light Curtains Protection for Doors
09	Open the Door by Door-opening Button	31	Over-load Protection
10	Door Mode Selection	32	Anti-nuisance at Light-load
11	Next Landing	33	Reversing Protection
12	Cancel a Wrong Registration	34	Running Time Limiter
13	Clear Registrations before Reversing	35	Fault Protection for Terminal Switch
14	Direct Landing	36	Protection Against Terminal Over Travel
15	By-passing Landing Calls when Full-load	37	Contact Detecting for Safety Relays and Contactors
16	Power-off Car Light & Fan when Stand-by	38	Protection Against Safety Circuit Fault
17	Auto Homing	39	Master CPU Protection by WDT
18	Re-close Door	40	Over Speed Protection
19	Historical Error Log	41	Lower Speed Protection
20	Self-teaching of Shaft Information	42	Leveling Switch Fault Protection
21	Service Floor Setting	43	CAN Communication Fault Protection
22	Indicating Symbols Setting for Every Floor	44	Safety Edge Protection

Elevator Control System Standard Function (table2)

No.	Name	No.	Name
45	Brake Switch Contact Detection	52	Door Nudging with Buzzer
46	Diagnosis of Failure in Self-Teaching of Shaft Information	53	Door-opening when Standby at Main Floor
47	Motor Thermal Protection	54	Floor Blocking within Setting Time Interval
48	Door Switch Fault Protection	55	Automatic Inquiry of Landing Call Board
49	Protection of Door Switch Off in Running	56	CAN Communication Interference Evaluations
50	Duplex Mode	57	Evaluation about Encoder Interference
51	Leveling Fine-tuning	58	Elevator Adjustment in Car

Elevator Control System Optional Function

No.	Name	Remarks	No.	Name
01	Pre-door-opening	With SM-11-A Board	12	Arrival Gong on Landing
02	Releveling with Door Open	With SM-11-A Board	13	Separate Control of Car Doors(front & rear)
03	Fireman Service Operation		14	VIP Priority Service
04	The Second COP		15	Emergency Landing when Power Failure
05	Rear Door COP		16	Service Floor Controlled by Switch
06	COP for the Handicapped		17	Voice Reporting
07	Group Control	With SM-GC Board	18	Load Compensation for Starting
08	Community Monitoring		19	Door-opening Holding Button
09	Emergency Operation for Earthquake		20	Display for Out of Service
10	Arrival Gong on Car		21	Car Call Controlled by IC Card
11	Arrival Light on Landing		22	Landing Call Controlled by IC Card

Elevator Control System Standard Function Description(table1)

No.	Name	Function Description
01	Collective Control	When in automatic or attendant control, the elevator stops in response to the landing calls up and down as well as the car calls , i.e., a passenger can call the car in both directions at any service floor..
02	Inspection Operation	It is a function for field mechanics or engineers to carry out maintenance, inspection or testing tasks. When operational conditions are satisfied, an authorized person can inch the car by pressing and releasing the button, he can move the car at inspection speed by continuously pushing down the button and stop it by releasing the button.
03	Self-rescue Running	When the elevator stays out of the leveling zone (NOT in inspection state), it will automatically move to the leveling zone slowly to evacuate the passengers only if the safety requirements for the start are met.
04	Testing Mode	It is a function designed for testing the performance of a new elevator. By setting a given parameter in testing travel on the Master Control board, a field engineer will put the elevator into automatic operation. Both the total number of trips and the interval time between trips of the testing travel can be determined by parameter setting.
05	Clock Control	With the built-in clock system by real time, the exact time at which a breakdown takes place can be recorded in the Error Log. Besides, some clock control- related functions all use the clock time as the standard one
06	Automatic Control for Door-opening Time	When the elevator travels in automatic state without attendant, the door closes automatically by a delay after the car arrives at a landing with the door open.
07	Open the Door by the Landing Call	When the call button of this landing is pressed down, the car door opens automatically. If someone keeps pushing on the button, the door remains open.
08	Pre-close the Door by Door-closing Button	When the door is open in automatic state, the door can be closed immediately before the delay elapses by pushing on the door-closing button.
09	Open the Door by Door-opening Button	When the car stays within the door zone, a passenger in the car can open a closed door or make a closing door reverse by pushing on the door-opening button.
10	Door Mode selection	You may set parameter to select different door machine, which includes such types as opening-torque hold, closing-torque hold and opening/ closing-torque holding.

Elevator Control System Standard Function Description(table2)

No.	Name	Function Description
11	Next Landing	If the door has been opening longer than the setting time without activating the door open limit switch, the door will close and the elevator will travel to the next floor after the door is closed.
12	Cancel a Wrong Registration	If a passenger realizes that he or she has pushed down a wrong button in the car panel, he or she can cancel the wrong registration by pushing the same button twice incessantly. The registered signal will be canceled. This function can be activated by the parameter setting.
13	Clear Registrations before Reversing	When the elevator car arrives at the last landing and is about to reverse the direction, all the registrations behind its present travel will be cancelled at once.
14	Direct Landing	The control system decelerates the elevator according to distance principle. No creeping when leveling.
15	By-passing Landing Calls when Full-load	When a full-loaded elevator car travels in automatic mode without attendant, the elevator will NOT answer any calls from its passing landings, stopping at the landings by car calls only..
16	Power-off Car Light & Fan when Stand-by	If a elevator in automatic mode stands by over 3 minutes (default value of 3 minutes subject to change by parameter), receiving neither car nor landing calls, the car lighting and fan will automatically stays off power until a call for the elevator to answer appears.
17	Auto Homing	When the elevator travels in automatic mode without attendant service while setting Auto Homing in effect, the elevators which receives neither car nor landing calls will automatically return to the main landing within a given period of time determined by parameter setting.
18	Re-close Door	In order to prevent door-closing failure from the contingent failure of the door machine system and possible door block by something, this function is therefore provided to re-close the door.
19	Historical Error Log	The Fault history Log keeps the latest 20 fault records concerning the occurrence time, floors and fault codes.

Elevator Control System Standard Function Description(table3)

No.	Name	Function Description
20	Self-Teaching of Shaft Information	The hoist way self-teaching system should be activated before the elevator goes into service. The system will learn various kinds of data within the hoist way and save those information permanently.
21	Service Floor Setting	Using the handheld operator to set at will which floors the elevator serves and which floors the elevator does NOT serve.
22	Indicating Symbols Setting for Every Floor	Using the handheld operator to set at will the varied display symbols or marks for each floor. For instance, "B" for basement floor.
23	Attendant Service	Using the switch in the car operation panel, one can put the elevator into attendant service, under which the automatic door closing is absent and the door can only be closed when the attendant keep pressing the door-closing button. Meanwhile the function can also allow attendant to choose direction and by-passing.
24	Independent Mode	Independent Mode is a special operation, during which the elevator accept no landing call and the automatic door-closing is absent. Other features are similar to Attendant Service.
25	Display	Dot-matrix Landing Indicators are used both in the car and at the landing, displaying such information as the floor position, running direction, elevator status and etc.
26	Fire Emergency Return Running	In case of fire, the fire returning switch should be turned on the elevator will immediately cancel all the calls registered and returns to evacuating floor, then door-opening and stand-by.
27	Automatic Correction of Shaft Information	The traveling elevator system compare its own position signals at each terminal switch and the leveling switch of each landing against those obtained by self-study and making automatic data corrections accordingly.
28	Elevator Lock-out	When the elevator in automatic mode or attendant service, turning the switch on, it will clear all the landing calls registered, and only respond to the car calls until no new instructions registered. Then the elevator returns to the parking floor, turns off car light and fan after opening the door automatically, lighten the door-opening button indicator, and automatically close the door when 10 seconds time delay expired. Finally, the elevator stops running, and will be back to operation when the switch reset.

Elevator Control System Standard Function Description(table4)

No.	Name	Function Description
29	Protection against Door-opening outside Door Zones	The door cannot open outside the door zone, which is preset by the system for safety concern.
30	Light Curtains Protection for Doors	Every elevator is equipped with a light curtains door protection, whenever any object appears or stays between the closing doors, the light curtains protection or safety contact plate will be activated to reopen the doors. The light curtains protection is not in effect when elevator is in fire-fighting mode.
31	Over-load Protection	With the over-load switch functioning, the door remains open with alarm buzzing on.
32	Anti-nuisance at Light-load	When the elevator is in light-load state, the number of car calls has reached or exceeded the setting value. The system will clear all the car calls.
33	Reversing Protection	When the system has detected an inconsistency between the elevator registered direction and travel direction for a while, an emergency stop will be activated with alarm buzzing on.
34	Running Time Limiter	If the elevator in operation has traveled incessantly for a longer time than the value preset by the time limiter (max.45s) without leveling switch action, all elevator operation will be stopped.
35	Fault Protection for Solw down Switch	When encountering the terminal switch failure, elevator land in emergency to avoid possible top or bottom floor collision.
36	Protection Against Terminal Over Travel	Both the uppermost and the lowest ends of the hoistway are mounted with limit switches and speed retardation switch to prevent any elevator over-travels.
37	Contact Detecting for Safety Relays and Contactors	The system checks up the contact reliability of the safety relays and contactors. If any inconformity between the contact movement and the working status of the coil is detected, all car movements will be stopped.
38	Protection Against Safety Circuit Fault	Emergency stop occurs once system receives the signals indicating failure of main circuit. This function is also able to prevent running of a elevator at fault.
39	Master CPU Protection by WDT	The master control PCB is integrated with WDT protection. When any CPU or program problems are detected, the WDT Circuit will make a forced cutoff at the output terminals of the Master Control and reset the CPU.

Elevator Control System Standard Function Description(table5)

No.	Name	Function Description
40	Over Speed Protection	This protection function is provided to avoid safety problems due to elevator running speed higher than control limit.
41	Lower Speed Protection	This protection function is provided to avoid safety problems due to elevator running speed lower than control limit.
42	Leveling Switch Fault Protection	A protection functions to be activated in case of abnormal situations caused by failure of leveling switch.
43	CAN Communication Fault Protection	It prevents possible danger in case of CAN communication failure and elevator keep running.
44	Safety Edge Protection	When the door is about to close and door safety contact pad is activated, the elevator will automatically open the door or keep the door opening for the prevention of possible clamping passengers.
45	Brake Switch Contact Detection	The system check the reliability of brake through its switch contact. Protection will be launched once the brake is found not reliable.
46	Diagnosis of Failure in Self-Teaching of Shaft Information	Because the hoist way information is the basis for the elevator normal traveling. Elevator can not run properly without the correct hoist way information. Therefore, the system dose the diagnosis of hoist way self-teaching failure to stop running if with error information.
47	Motor Overheat Protection	The protection aims to prevent the possible danger caused by motor overheating.
48	Door Lock Switch Fault Protection	The protection shall be activated to stop elevator once system detect abnormal condition of door lock switch
49	Protection of Door Lock Switch Off in Running	Elevator will stop immediately once any door lock switch off when running.
50	Duplex Mode	The coordination of landing calls between two elevators is realized through CAN serial communication bus-based data transfer between the two elevators. The traveling efficiency of the elevators is improved.
51	Leveling Fine-tuning	Use the software to adjust the leveling switch position of each floor within a tiny range. So the complicated procedure of adjusting leveling plug-in board can be avoided.

Elevator Control System Standard Function Description(table6)

No.	Name	Function Description
52	Door Nudging with Buzzer	Activate the door nudging function. If the elevator keep door opening and no door-closing signal are sent due to light curtain or other reason, the elevator will be closed and acoustic warning will alarmed.
53	Door-opening when Standby at Lobby Floor	Use parameter setting to choose the elevator door-opening when it is standby at lobby floor.
54	Floor Blocking within Setting Time Interval	Conduct the specific blocking service to designated floor at specific time. The specific block service means that user can choose to only block land call or only blocking car call, or blocking both car and landing call. And user can also choose blocking nothing.
55	Automatic Inquiry of Landing Call Board	Use the operator to check whether the landing call board at each floor works properly or not.
56	CAN Communication Interference Evaluations	Use the operator to check the communication quality of CAN.
57	Evaluation about Encoder Interference	Use operator to check the interference of encoder signal.
58	Elevator Adjustment in Car	Revolutionary elevator adjustment method is provided. Working staffs can adjust the elevator directly inside the car, monitor the elevator running condition so as to make the adjustment of elevator leveling, comfort and other function more user-friendly.

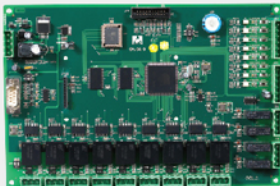
Elevator Control System Optional Function Description(table1)

No.	Name	Function Description
01	Pre door-opening	The option enable leveling elevator to open door immediately upon arrival at the pre door-opening zone. In this way the elevator operation is more efficient.
02	Releveling with Door Open	Due to the stretch of wire ropes in case of high-rise buildings, the stopping car may move up and down while passengers leave and board the car, which may lead to mal-leveling. Once this situation is detected by the system, the control will make the car re-level at a slow speed with the door open.
03	Fireman Service Operation	The fireman switch is set on in case of fire, the elevator will immediately clear out all car & landing calls and return to firefighting main floor. Then system switches to fireman service mode.
04	The Second COP	The auxiliary car operating panel is available as well as the main car operating panel. Passengers can also use it to register car call and operate the door.
05	Rear Door COP	Rear door COP is recommended when elevator has both front and rear door. Passenger can use the rear door operating panel to register car call and operate the rear door.
06	COP for the Handicapped	Operating panel for the disabled is available for the disabled to operate the elevators.
07	Group Control	Use group control controller to coordinate landing calls of elevators in the bank. In this way the traveling efficiency of elevators can be improved. And function such as peak service and dispersion waiting state are provided. The group control system can control up to 8 units.
08	Community Monitoring	Control system link to the PCs in monitoring room through CAN communication line. Working staff can monitor the elevator position, running direction and fault condition and etc.
09	Emergency Operation for Earthquake	With this function, if earthquake occur, the earthquake inspection device activated. A contact signal from the device will be transferred to the control system. The control system will instruct the running elevator to park at nearest floor and open the door for passenger evacuation as well as stop the elevator then.
10	Arrival Gong on Car	The Up/Down arrival gong installed at the car top (and car bottom) will ring as the elevator decelerate and level, alarming the passenger in car and hall that the elevator is leveling and about to arrive.

Elevator Control System Optional Function Description(table2)

No.	Name	Function Description
11	Arrival Light on Landing	With this function. The up/down arrival light installed at the hall of each floor will inform passengers the upcoming arrival of the elevator.
12	Arrival Gong on Landing	With this function, the up/down arrival gong at hall of each floor will inform passengers the upcoming arrival of the elevator.
13	Separate Control of Car Doors (front & rear)	Passenger can make independent control of the front and rear door according to their own needs.
14	VIP Priority Service	A special service for the VIP passengers, the function enables the VIP passenger to arrival the destination floor as soon as possible.
15	Emergency Landing when Power Failure	when power failure causes the running elevator fail to reach the door zone and entrapment occurs as the consequence. The emergency landing device will be activated. It makes the elevator move at the low speed to the nearest door zone for passenger evacuation.
16	Service Floor Controlled by Switch	Use the switch to change the elevator service floor.
17	Voice announcement	When install the floor broadcasting function to the system, the floor broadcaster will report the upcoming floor during the leveling process and report the subsequent running direction of the elevator at each time of door-opened.
18	Load Compensation for starting	The load compensation value is given based on the car load data inspected by the weighing device. In this way the elevator startup comfort will be improved.
19	Door-opening Holding Button	Use the door holding button to enable the door-closing delay.
20	Display for Out of Service	A display method to inform passenger that elevator is out of service.
21	Car call Controlled by IC Card	With this function, a card reader is installed in the car operating panel. Passenger must use the card to register the car call for authorized floors.
22	Landing call Controlled by IC Card	With this function, a card reader is installed at the landing call panel of each floor. Passenger must use the card to register the landing call for the corresponding floor.

Elevator Group Control Basic Feature



SM-GC



BCP/PO 100

No.	Basic Feature
01	The group control system uses centralized-control technology, which means system arrange and dispatch hall call by a special control board. To minimize the waiting time, group control system analyses very situation including floor height, car call and hall call situation, overpass situation and reverse direction situation to dispatch hall call to the elevator which can response fast. Group control system can increase the efficiency of the elevator.
02	The group control system can control 8 elevators at the same time, the maximum floor number of each elevator is 48.
03	Group control board uses CAN BUS to communicate with elevator control board, which assure the credibility and the speed of data transfer.
04	Group control system has back up protection function. If group control system has any problem, it will cut off the power supply. The elevators in the group control system can run normally as simplex mode. When the group control system recovers to normal, all the elevators in system will transfer to group control mode automatically.
05	Group control system can cut off the fault elevator. If the system finds the elevator which has received the hall call does not response, the system will cut off this fault elevator and re-dispatch the hall call to assure the users won't wait a long time.
06	If elevator control board runs normally, the hall call is send to group control board from elevator controller. The group control system then send call register signal to call controller through controller to light the call button. If elevator controller is power off, the group control system will communicate with call controller directly to assure call controller still have effect in the system.
07	There are LEDs on the group control board, users can monitor whether the communication is normal through these LEDs. Input ports also have LEDs to indicate the ON/OFF situation.

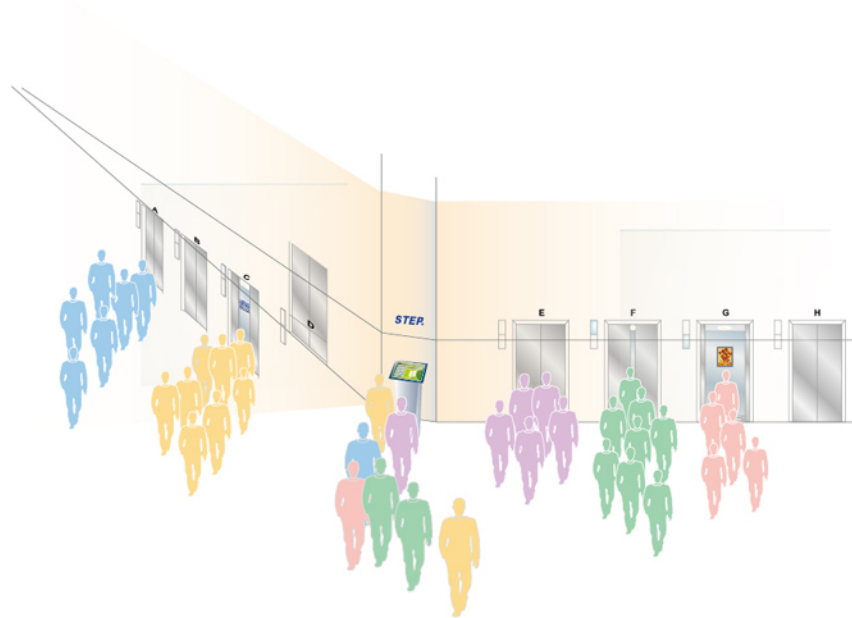
Elevator Group Control System Main Function (table1)

No.	Name	Main Function
01	Homing Function	<p>a. Standard Mode: In group control system, if there is no elevator at homing station and the elevator which can back to homing station immediately has no hall call and car call registered, then the elevator will homing at once and standby with door closed, which can improve the homing station carrying capacity.</p> <p>b. Setting Mode: When elevator quantity is less than setting value at homing station, the group control system will dispatch suitable elevator to homing station. The elevator will delay running homing station. The delay time can be set.</p>
02	Dispatch Parking Floor	<p>a. Standard Mode: When all elevators in the system have standby for one minute, group control system start the dispersion standby function: 1. If there is no elevator at homing station and the floor below it, system will dispatch an elevator which can reach homing station most easily and standby with door closed. 2. If there are more than two elevators running normally and there is no elevator above central floor, the system will dispatch an elevator to upper standby floor with door closed.</p> <p>b. Setting Mode: Setting mode can easily set delay parking time and parking floor. When all elevators are in parking state and delay parking time is limited. If there is no any elevator in parking floor, the group system will dispatch one proximate elevator to parking floor. Maximum 4 parking floors can be set and each parking floor can only park one elevator.</p>
03	Up Peak Service	<p>When this function is chosen, system will start up-peak service. If the up direction running elevator from homing station has more than three call register at up-peak time (set by time relay or manual switch). At this time all elevators in the system will run to homing as long as respond the hall call and car call. System will recover to normal, when the up-peak time is passed.</p>
04	Down Peak Service	<p>When this function is chosen, system will start down-peak service. If the down direction running elevator to homing station has full load at down peak time (set by time relay or manual switch). At this time all elevators in the system will run to top floor as long as respond the hall and car call. System will recover to normal, if the down peak time is passed or the elevator is not full load for 2 mins.</p>

Elevator Group Control System Main Function (table2)

No.	Name	Main Function
05	None Service Floor Control	The group control system has two service floor schemes for choosing, which can set by switches or time relay. When one switch is closed, the system will dispatch elevators run as one service scheme. The other service scheme is the same. If both two switches are not closed, the elevators run normal service floor. Each service scheme should pre-set which floor can respond car call, up or down landing call.
06	Group Region Segmentation	When this function is chosen, the group region segmentation switch is valid. When the switch is closed, group control system divides the elevators to two dependant group control systems. When the switch is opened, the group control system becomes normal mode.
07	Partly Group Region Segmentation	In group control system, when the elevator terminal floor numbers are different, partly group region segmentation is needed. When this function is open, the group control system will divide to two parts. One part has basement, the other has not. If the basement hall call is registered, only the elevator which has basement will respond. If the elevator hall calls except basement floor are registered, the group control system normally dispatches elevators. When top floor number is different, the dispatching method is similar that the elevator has basement condition.
08	Emergency Power Running Mode	If the building has generator, when the local power supply is cut off, the elevator will switch to back up power running. Considering the capacity of backup power, system will let the elevator return to homing station one by one and standby with door opened. When all elevators have returned to homing station, group control system will dispatch elevators continues running or stopping, as per setting value.

Destination Dispatch System

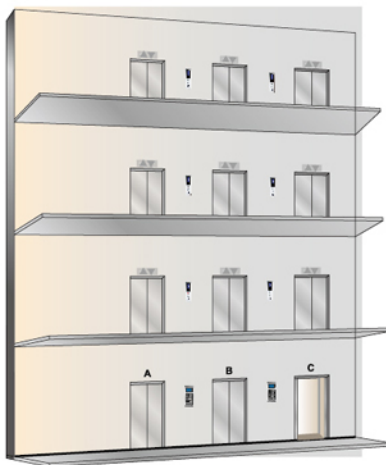


Features

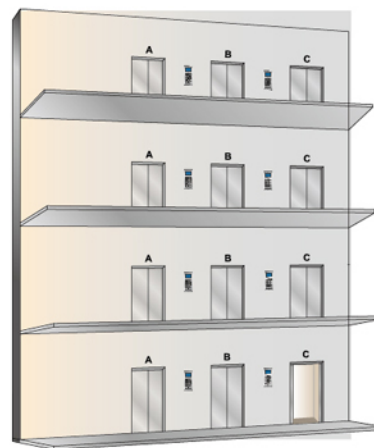
- **Super Efficient**
Various leading-edge technology applied such as expert system, fuzzy Logic, neural network, etc., CAN bus based, improve dispatching efficiency greatly.
- **Joy-Journey**
By destination dispatching system to guide passengers to the assigned lift, it reduces the average waiting time & long waiting ratio to avoid the crowded lobby and rushing people, which makes them more comfortable.
- **Cost-saving**
With more efficient dispatching, reducing lifts deployment in a group for same traffic capacity requirement.
- **Energy-saving**
Fewer unnecessary stops helps reducing energy consumption in the building.
- **Flexible Configuration**
Adaptable to various hoist-ways' layout & different service floor in a group, suitable for unique building designing.

Configuration

- Support Hybrid & Full DDS both.
 - Hybrid DDS
 - Destination operating panel at main entrance floor or parts of floors
 - Conventional landing call stations on the other floors
 - Full DDS
 - Destination operating panel at each landing



Hybrid DD



Full DDS

- Multi-Choice for Destination Selector
 - Touch-Panel/Keypad/IC reader/Buttons
- Multi-Choice for Destination Indicator
 - car/landing, vertical/horizontal, dot-matrix LED/ LCD



Touch Panel



Keypad

Main Functions

01. Up Peak
02. Down Peak
03. Lunch Peak
04. Noon Peak
05. Peak Time Self-identification in Idle Mode
06. Idle Mode
07. Energy Saving Mode
08. Distribution Waiting
09. Service for Disabled
10. Immediate Forecasting
11. Automatically Switching of Service Floors at Time Periods
12. Anti-nuisance
13. Car Call Disable
14. Setting of Door Open Time at Destination Floor

MCP-ST/C 6400

Integrated Full Serial VVVF Control Cabinet



Fully upgraded **AStar** AS380 integrated drive controller is room-less easier to adjust and by adopting CAN BUS serial communication. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., make elevator operation safer and more reliable.

Cable cores are reduced efficiently with new system configuration-Car Top board and Car board. And more stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Rated Speed: $\leq 2.5\text{m/s}$
- Main Controller: STEP AS380 Integrated Drive Controller
- Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 1000×580×300
- Resistor Box Dimension(mm): 420×255×117 ~ 420×255×255
- Installation Method: Kiosk Type

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Motor
- Encoder: Collector Open, Push-Pull, Difference
Encoder Interface: Standard DB15 Plug for Synchronous Motor; Terminal for Asynchronous Motor
- Brake: DC110V/DC220V/AC220V, rated current ≤6A, interface: 2.5 mm² Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Up Over Speed Protection (which for Asynchronous Motor), Manual Wheel, Motor Side EM-Stop and Emergency Electrical Running Switches.
- Switches in Shaft: Final Limit Switch, Buffer Switch, Rope Brake Switch, Pit EM-Stop Switch and Slow Down Switch(except Limit Switch).
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch(car bottom without power supply type), Light Curtain Switch
Safety Edge Switch and Arrival Gong Switch(Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Automatic Rescue Device(ARD), Electric Brake Releasing Device; Crimping Terminals are 16mm² and 2.5 mm²
- Travelling Cable: 29 Core Flat Cable-TVVBP29/24×0.75+2×2P×0.75+1×2.0 (standard function system)
- Communication Cable:4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Cable:3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 19 Core Round Cable-RVV19/18×0.75+1×2.0(standard function system)

MCP-ST/G 6400

Integrated Full Serial VVVF Control Cabinet



Fully upgraded **iAStar** AS380 integrated drive controller is room-less and easier to adjust and adopting CAN BUS serial communication. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., make elevator operation safer and more reliable.

Cable cores are reduced efficiently with new system configuration-Car Top board and Car board. And more stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Rated Speed: $\leq 2.5\text{m/s}$
- Main Controller: STEP AS380 Integrated Drive Controller
- Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 1000×580×300
- Resistor Box Dimension(mm): 420×255×117 ~ 420×255×255
- Installation Method: Kiosk Type

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Motor
- Encoder: Collector Open, Push-Pull, Difference
- Encoder Interface: Standard DB15 Plug for Synchronous Motor; Terminal for Asynchronous Motor
- Brake: DC110V/DC220V/AC220V, rated current ≤6A, interface: 2.5 mm² Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Up Over Speed Protection (which for Asynchronous Motor), Manual Wheel, Motor Side EM-Stop and Emergency Electrical Running Switches.
- Switches in Shaft: Final Limit Switch, Buffer Switch, Rope Brake Switch, Pit EM-Stop Switch and Slow Down Switch(except Limit Switch).
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch(car bottom without power supply type), Light Curtain Switch, Safety Edge Switch and Arrival Gong Switch(Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Automatic Rescue Device(ARD), Electric Brake Releasing Device: Crimping Terminals are 16mm² and 2.5mm².
- Travelling Cable: 29 Core Flat Cable-TVVBP29/24×0.75+2×2P×0.75+1×2.0 (standard function system)
- Communication Cable: 4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Cable:3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 19 Core Round Cable-RVV19/18×0.75+1×2.0(standard function system)
- Power Supply: AC380V~460V, 50/60Hz, 3 phase

MCP-ST/C 0501

Integrated Full Serial VVVF Control Cabinet



Fully upgraded **iAStar** AS380 integrated drive controller is room-less easier to adjust and adopting CAN BUS serial communication. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., make elevator operation safer and more reliable.

Cable cores are reduced efficiently with new system configuration-Car Top board and Car board. And more stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

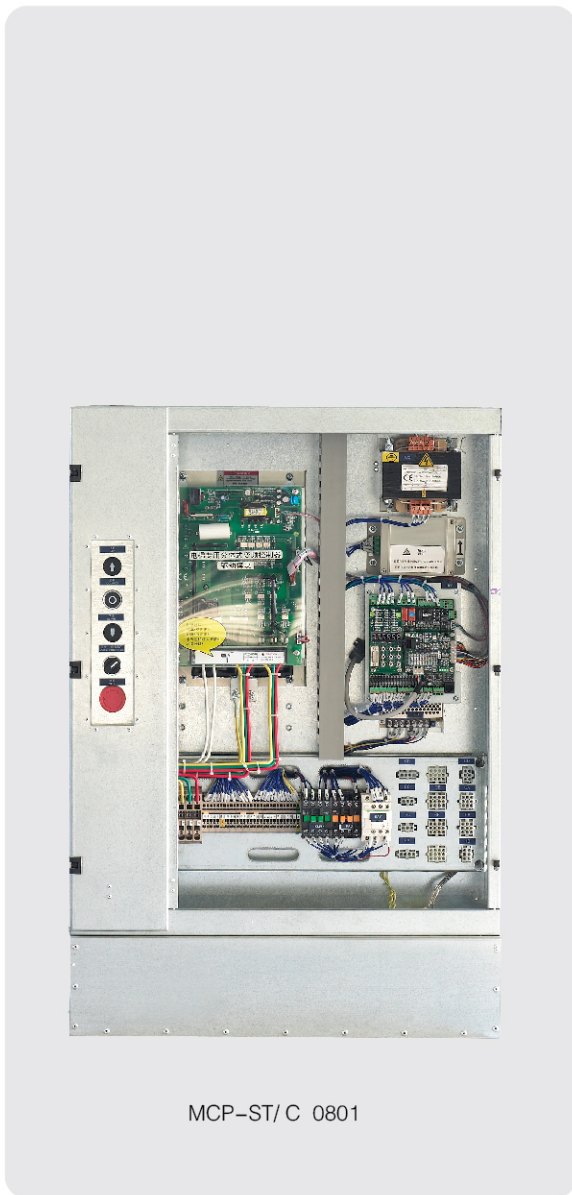
- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Rated Speed: $\leq 2.5\text{m/s}$
- Main Controller: STEP AS380 Integrated Drive Controller
- Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 1350×450×300
- Resistor Box Dimension(mm): 420×255×117~420×255×255

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Motor
- Encoder: Collector Open, Push-Pull, Difference
- Encoder Interface: Standard DB15 Plug for Synchronous Motor;
Terminal for Asynchronous Motor
- Brake: DC110V/DC220V/AC220V, Rated Current ≤6A, Interface: 2.5 mm²
Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Up Over Speed Protection (which for
Asynchronous Motor), Manual Wheel, Motor Side EM-Stop and Emergency
Electrical Running Switches.
- Switches in Shaft: Final Limit Switch, Buffer Switch, Rope Brake Switch, Pit
EM-Stop Switch and Slow Down Switch (except Limit Switch).
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety
Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch(car bottom
without power supply type), Light Curtain Switch, Safety Edge Switch and
Arrival Gong Switch(Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Automatic Rescue Device(ARD), Electric Brake Releasing
Device; Crimping Terminals are 16mm² and 2.5mm².
- Travelling Cable: 29 Core Flat Cable-TVVBP29/24×0.75+2×2P×0.75+1×2.0
(standard function system)
- Communication Cable: 4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Cable: 3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 19 Core Round Cable-RVV19/18×0.75+1×2.0(standard
function system)

MCP-ST/C 0801

B Type Integrated Full Serial VVVF Control Cabinet



Fully upgraded **iAStar** AS380 B type integrated drive controller is room-less easier to adjust and adopting CAN BUS serial communication. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., make elevator operation safer and more reliable.

Cable cores are reduced efficiently with new system configuration—Car Top board and Car functions board. And more stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Rated Speed: $\leq 2.5\text{m/s}$
- Main Controller: STEP AS380 B Type Integrated Drive Controller
Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10\text{ }^{\circ}\text{C} \sim 45\text{ }^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 950×650×220
- Resistor Box Dimension(mm): 524×185×250~420×255×350

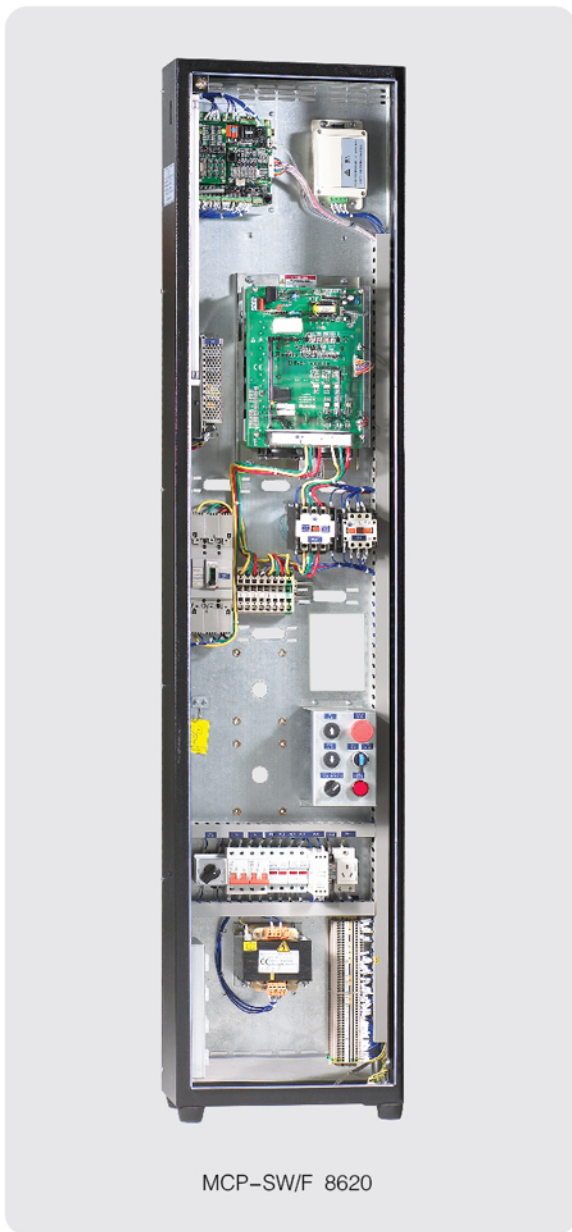
Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Moto
- Encoder: Collector Open, Push-Pull, Difference
- Encoder Interface: Standard DB15 Plug for Synchronous Motor; Terminal for Asynchronous Motor
- Brake: DC110V/DC220V/AC220V, Rated Current ≤6A, Interface: 2.5 mm² Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Up Over Speed Protection (which for Asynchronous Motor), Manual Wheel, Motor Side EM-Stop and Emergency Electrical Running Switches.
- Switches in Shaft: Final Limit Switch, Buffer Switch, Rope Brake Switch, Pit EM-Stop Switch and Slow Down Switch (except Limit Switch).
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch(car bottom without power supply type), Light Curtain Switch, Safety Edge Switch and Arrival Gong Switch(Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Automatic Rescue Device(ARD), Electric Brake Releasing Device; Crimping Terminals are 16mm² and 2.5mm²
- Travelling Cable: 29 Core Flat Cable-TVVBP29/24×0.75+2×2P×0.75+1×2.0 (standard function system)
- Communication Cable:4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Cable:3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 19 Core Round Cable-RVV19/18×0.75+1×2.0(standard function system)

MCP-SW/F 8620

B Type Integrated Full Serial

VVVF MRL Control Cabinet



Fully upgraded **iAStar** AS380 B type integrated drive controller is room-less easier to adjust and adopting CAN BUS serial communication. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., make elevator operation safer and more reliable.

Cable cores are reduced efficiently with new system configuration-Car Top board and Car board. And more stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Rated Speed: $\leq 2.5\text{m/s}$
- Main Controller: STEP AS380 B Type Integrated Drive Controller
- Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 1780×400×200
- Resistor Box Dimension(mm): 420×255×117~420×255×255

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Motor
- Encoder: Collector Open, Push-Pull, Difference
- Encoder Interface: Standard DB15 Plug for Synchronous Motor; Terminal for Asynchronous Motor
- Brake: DC110V/DC220V/AC220V, Rated Current ≤6A, Interface: 2.5 mm² Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Up Over Speed Protection (which for Asynchronous Motor), Manual Wheel, Motor Side EM-Stop, Emergency Electrical Running Switches and Governor Remote Reset Interface
- Switches in Shaft: Final Limit Switch, Buffer Switch, Rope Brake Switch, Pit EM-Stop Switch and Slow Down Switch (except Limit Switch).
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch(car bottom without power supply type), Light Curtain Switch, Safety Edge Switch and Arrival Gong Switch(Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Brake Release Lever, Automatic Rescue Device(ARD), Electric Brake Releasing Device ; Crimping Terminals are 16mm² and 2.5mm².
- Travelling Cable: 29 Core Flat Cable-TVVBP29/24×0.75+2×2P×0.75+1×2.0 (standard function system)
- Communication Cable:4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Cable:3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 19 Core Round Cable-R VV19/18×0.75+1×2.0(standard function system)

MCP-ST/B 6000

Integrated Home Lift Control Cabinet



Fully upgraded **AStar** AS380 integrated drive controller is room-less easier to adjust and adopting CAN BUS serial communication. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., make elevator operation safer and more reliable.

Cable cores are reduced efficiently with new system configuration-Car Top board and Car board. And more stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

- Power Supply: AC220V~240V, 50/60Hz, 1 phase AC380V~460V, 50/60Hz, 3 phase
- Power Range: 1.1kW~3.7kW
- Rated Speed: 0.5 ~1.0m/s
- Main Controller: STEP AS380 Integrated Drive Controller or AS350 Integrated Drive Controller
- Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 700×400×250
- Resistor Box Dimension(mm): 400×215×160

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Motor
- Encoder: Collector Open, Push-Pull, Difference
- Encoder Interface: Standard DB15 Plug for Synchronous Motor; Terminal for Asynchronous Motor
- Brake:DC110V/DC220V/AC220V, Rated current ≤6A, Interface: 2.5mm² Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Up Over Speed Protection (which for Asynchronous Motor), Manual Wheel, Motor Side EM-Stop and Emergency Electrical Running Switches.
- Switches in Shaft: Final Limit Switch, Buffer Switch, Rope Brake Switch, Pit EM-Stop Switch and Slow Down Switch(except Limit Switch).
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch(car bottom without power supply type), Light Curtain Switch, Safety Edge Switch and Arrival Gong Switch(Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Automatic Rescue Device(ARD), Electric Brake Releasing Device; Crimping Terminals are 16mm² and 2.5mm².
- Travelling Cable: 29 Core Flat Cable-TVVBP29/24×0.75+2×2P×0.75+1×2.0 (standard function system)
- Communication Cable: 4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Cable: 3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 19 Core Round Cable-RVV19/18×0.75+1×2.0(standard function system)

MCP-ST/C 2300

Integrated Full Serial VVVF Control Cabinet



The control functions are achieved by STEP **AStar** S8 integrated controller, which combines inverter and controller together. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., are viable to be realized. Cable cores and cost are reduced efficiently with CAN BUS serial communication. More stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Rated Speed: $\leq 3.5\text{m/s}$
- Main Controller: STEP S8 Integrated Drive Controller
- Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 1100×650×330
- Resistor Box Dimension(mm): 420×255×117~420×255×255

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Motor
- Encoder: Collector Open, Push-Pull, Difference
- Encoder Interface: 1.0mm² Terminal
- Brake: DC110V/DC220V/AC220V, Rated Current ≤6A, Interface: 2.5 mm² Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Upper Over Speed Protection (which for Asynchronous Motor), Manual Wheel, Motor Side EM-Stop and Emergency Electrical Running Switches
- Switches in Shaft: Terminal Limit Switch, Buffer Switch, Rope Brake Switch, Pit EM-Stop Switch, Slow Down Switch and Limit Switch
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch(car bottom without power supply type), Light Curtain Switch, Safety Edge Switch and Arrival Gong Switch(Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Automatic Rescue Device(ARD), Electric Brake Releasing Device; Crimping Terminals are 16mm² and 2.5mm².
- Travelling Cable: 40 Core Flat Cable-TVVBP40/36×0.75+2×2P×0.75+1×2.0 (standard function system)
- Communication Cable: 4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Switch Cable: 3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 25 Core Round Cable-RVV25/24×0.75+1×2.0(standard function system)

MCP-ST/C 0100

Full Serial VVVF Control Cabinet



The control functions are achieved by STEP Full Serial Control System. Humanized functions, i.e. duplex, group control, remote monitoring, emergency rescue etc., are viable to be realized. Cable cores and cost are reduced efficiently with CAN BUS serial communication. More stability and best travel feeling are realized due to excellent VVVF drive system.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Rated Speed: $\leq 3.5\text{m/s}$
- Main Controller: STEP SM-01-F5021 Board
- Safety Standard: GB7588/EN-81
- Landing Mode: Direct Landing
- Accuracy of Leveling: $\leq \pm 3\text{mm}$
- Environment Temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 1500×650×382
- Resistor Box Dimension(mm): 420×255×117~420×255×255

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Inverter: STEP **AStar** AS320 Driver
- Adapted Motor: AC Asynchronous Motor / PM Synchronous Motor
- Encoder: Collector Open, Push-Pull, Difference
- Encoder Interface: Standard DB15 Plug for Synchronous Motor; Terminal for Asynchronous Motor
- Brake: DC110V/DC220V/AC220V, rated current≤6A, interface: 2.5mm² Crimping Terminal
- Door Motor: AC220V VVVF Operator
- Switches in Machine Room: Governor, Upper Over Speed Protection (which for Asynchronous Motor), Manual Wheel, Motor Side EM-Stop and Emergency Electrical Running Switches
- Switches in Shaft: Terminal Limit Switch, Buffer Switch, Rope Brake Switch, Pit EM-Stop Switch, Slow Down Switch and Limit Switch
- Switches on Car Top: Car EM-Stop switch, Car Top EM-Stop Switch, Safety Gear, Leveling Sensor, Over-Load, Light-Load, Full-Load Switch (car bottom without power supply type), Light Curtain Switch, Safety Edge Switch and Arrival Gong Switch (Electronic Type)
- Light Power Supply: AC220V for Car Top and Pit, AC36V for Car Top
- Intercom System: Five-Party (4 Line Type)
- Cable Plug: AMP Brand
- Rescue Device: Automatic Rescue Device(ARD), Electric Brake Releasing Device; Crimping Terminals are 16mm² and 2.5mm².
- Travelling Cable: 40 Core Flat Cable-TVVBP40/36×0.75+2×2P×0.75+1×2.0 (standard function system)
- Communication Cable: 4 Core Round Cable-RVVP4/2×2×0.75
- Door Lock Switch Cable: 3 Core Round Cable-RVV3/2×0.75+1×2.0
- Shaft Switch Cable: 25 Core Round Cable-RVV25/24×0.75+1×2.0(standard function system)

Escalator Control System

Escalator control system function

Standard features		
Upper and Lower Operation	Short Circuit Protection	Comb Plate Switch
Inspection Operation	Anti Top and Bottom Inspection Handle Simultaneous Operation	Cascade Defend Jump Switch
Automatic Refueling	Brake Detection	Fire Interface
Motor Speed Monitor (Over or Under Speed)	Control Cabinet EM-Stop	Cascade Chain Switch
Anti-reversal Running	Fault History	Armrest Belt Break Switch
Escalator Step Lack Detection	Control Cabinet Cooling	Cover Open Switch
Handrail Speed Monitor	Illumination	Brake Switch Detection
Contactors Contact Detection	Safety Switch	Auxiliary Brake Switch Detection
Starting Beep	Drive Chain Switch	Control Cabinet Emergency Stop
Power Phase Sequence Detection	Apron Switch	Stop Button
Motor Overheat Protection	Cascade Subsidence Switch	
Motor Overload Protection	Handrail Entrance Switch	
Optional Function		
Handle Operator	Machine Room Cover Detection	Voice Announcement
Faulty Monitor	Mechanical Wear Detection	Fire Mode
Assistance Brake Switch	Oil Level Detection	Calefaction
Leisure Mode	Water Level Detection	I / O Extension
Running Direction Indicator	Remote Monitoring	Bypass Conversion (only for integrated driver)
Mode Selection	Safety Switch Detection	

Escalator Control System Function Description(table 1)

Standard Function	
Upper and Lower Operation	In NORMAL mode, The escalator will run up or down direction due to the key switch signal input to integrated driver. Key switch signal is self-reset type.
Inspection Operation	The integrated driver is in inspection mode when there is no signal to Insp./Normal input. The up or down button of inspection handle can operate escalator inching running. The inspection speed can be adjusted by parameter settings.
Automatic Refueling	Each refueling interval and each refueling time can be set by parameter, When the escalators run continuously to the set time, a dry-point signal will be sent to control the pump to start refueling. Stop the output when the time is limited. The refueling action can only be valid when the escalator is running. Pulse-type refueling device can't be supported.
Motor Speed Monitor	Motor speed is monitored by sensor. This function is for monitoring whether the escalator running is over or under rated speed.
Anti-reversal Running	The escalator operation states are detected by sensor. If the escalator is automatically reversal running, the controller will make safety operate such as brake switch active, auxiliary brake switch active and so on, until the escalator running is safe.
Escalator Step Lack Detection	Escalator step running states are detected by sensor. If the escalator step is lack or fallen, the controller output signals and brake power supply will be cut off and the escalator is stopped.
Handrail Speed Monitor	The handrail running speed is detected by sensor. If the handrail speed is under 15% of rated speed and holding time is 15s, motor and brake power supply are cut off.
Contactors Detection	The points of contactors are detected. If the point is adhesion, the escalator will be starting forbidden.
Starting Beep	The set buzzer signal is sent out before the escalator running, which is for safety caution.
Power Phase Sequence Detection	Detect the lack phase and wrong phase of the input power supply.
Motor Overheat Protection	The controller will cut off output signal and brake power supply, when the motor temperature is abnormal heat.
Motor Overload Protection	The controller will cut off output signal and brake power supply, when the motor is over load.

Escalator Control System Function Description(table2)

	Standard Function
Short-Circuit Protection	When the circuit is short, the control circuit is immediately cut off.
Anti Top and Bottom Inspection Handle Simultaneous Operation	Avoid the handle simultaneous operation through the circuit interlock
Brake Detection	The brake switch opened and closed states are detected by brake switch detection.
Control Cabinet EM-Stop	The control cabinet EM-Stop can immediately cut off safety loop, brake and motor power supply.
Fault History	The fault history can be checked by operator.
Control Cabinet Cooling	Cooling fan is installed for cooling the control cabinet, when the driver method is VVVF.
Illumination	The AC200V lighting interface is provided by control cabinet.
	Optional Function
Handle Operator	Escalator states, fault codes, parameter setting and other functions can be achieved by handle operator.
Fault monitor	Escalator failures can be monitored by I/O monitor board or other boards.
Assistance Brake Switch	The auxiliary brake power will be cut off and escalator enter safety mode when the escalator happens errors such as over speed running (1.4 times rated speed), reversal running, driver chain broken and so on.
Leisure Mode	If the sensor finds out the escalator is not used for some time, the escalator will be a leisure state for energy saving. It is stopping directly or low-speed running then stops.
Running Direction Indicator	The direction indicator can show the running direction to passengers no matter when the escalator is running or stopped.
Mode Selection	In the dual-mode operation, VVVF or star-delta starting are all available. When the drive is in inspection mode, star-delta starting can be used.

Escalator Control System Function Description(table3)

	Standard Function
Machine Room Cover Detection	When the machine room cover detection switch is active, the escalator will automatically enter inspection state and be only inspection operated.
Mechanical Wear detection	Brake Wear is detected by mechanical wear detection switch. When this switch is active, the brake and motor power supply are cut off.
Oil Level Detection	The oil level is detected by oil level switch. When the oil is in low level, the brake and motor power supply are cut off.
Water Level Detection	The water level of bottom machine room is detected. When the water level reaches a dangerous level, brake and motor power supply are cut off.
Remote Monitoring	8 sets of dry-contactor point are supplied for remote monitoring, which can monitor escalator running state. The protocol of remote monitor is RS485. Details of this function should enquire with STEP company.
Safety Switch Detection	Each side of switch is detected. When safety switch is broken, the detailed broken switch can be checked by operator or fault monitor.
Voice Announcement	The escalator states can be reported by voice device.
Fire Mode	For passenger escalator, two directions running are stopped. For fire escalator, up direction running is normal, but down direction running is stopped. When the escalator is in fire mode, leisure mode will be shielded.
Calefaction	The escalators can be heated in a cold environment by giving manual or automatic to the device
I / O Extension	I / O extension modules are reserved for the personal requirements.
Bypass Conversion (Only for Integrated Driver)	Bypass Conversion function can be chosen by integrated driver. When the escalator is in normal mode, VVVF is chosen for starting and power frequency is chosen for normal running. When the escalator is in leisure mode, the controller will automatically switch from power frequency to VVVF half running. It is for maximum energy savings.

MCP-ESHC 500

Integrated VVVF Escalator Control Cabinet



MCP-ESHC 500

STEP **AStar** AS330 integrated escalator drive controller is room-less, energy saving, stability starting and idle speed adjusting and all kinds of protection function make escalator running more safety and reliable.

Escalator operation can be stably and reliably switched and energy saved due to innovative and optional by-pass VVVF operation.

Humanized functions, i.e. error report, handle operator, remote monitoring, I/O extension etc., make operation easier and convenient.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Main Controller: STEP AS330 Escalator Integrated Driver Controller
- Safety Standard: GB16899/EN115
- Environment Temperature: -10℃~45℃
- Operation Mode: Full VVVF Conversion, Bypass VVVF Conversion (Optional)
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 800×500×250 (Full VVVF Conversion)
- IP Code: IP21

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor
- Brake Voltage: DC110 /AC220V, rated current ≤3A, Interface: 2.5 mm² Crimping Terminal
- Light Voltage: AC220V
- Cable Interface: 2.5 mm² Crimping Terminal

MCP-ESHC 400 VVVF Escalator Control Cabinet

STEP new generation ES.01 escalator controller and **AStar** AS500 general inverter driver supply energy saving, stability starting and idle speed adjusting.

All kinds of protection function make escalator running more safety and reliable.

Humanized functions, i.e. error report, handle operator, remote monitoring, I/O extension etc., make operation easier and convenient.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Main Controller: STEP ES.01/A
- Driver: STEP AS500 General Inverter
- Safety Standard: GB16899/EN115
- Environment Temperature: -10℃~ 45℃
- Operation Mode: Full VVVF Conversion, Dual Mode Conversion (Optional)
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 800×500×250 (Full VVVF Conversion)
- IP Code: IP21

Interface Description

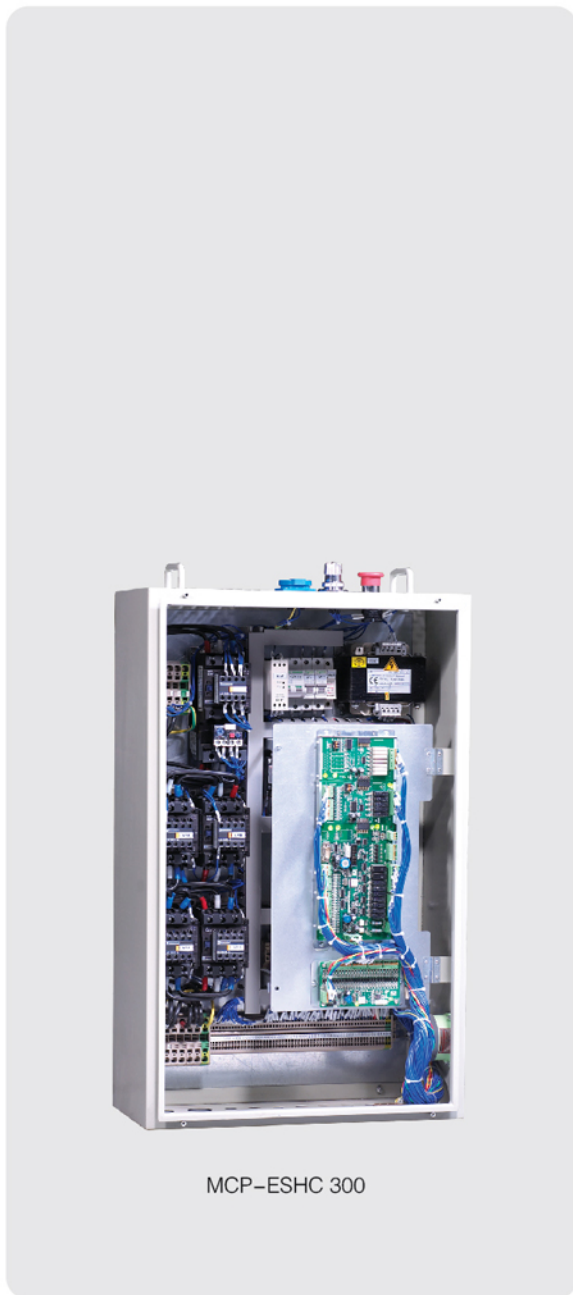
- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor
- Brake Voltage: DC110 /AC220V, rated current ≤3A, Interface: 2.5 mm² Crimping Terminal
- Light Voltage: AC220V
- Cable Interface: 2.5 mm² Crimping Terminal



MCP-ESHC 400

MCP-ESHC 300

Contactor Driver Escalator Control Cabinet



STEP new generation ES.01 escalator controller adopts star-delta starting, which support energy saving and idle speed adjusting. All kinds of protection function make escalator running more safety and reliable. Humanized functions, i.e. error report, handle operator, remote monitoring, I/O extension etc., make operation easier and convenient.

Technical Description

- Power Supply: AC380V~460V, 50/60Hz, 3 phase
- Power Range: 5.5kW~22kW
- Main Controller: STEP ES.01/A
- Driver: STEP AS500 General Inverter
- Safety Standard: GB16899/EN115
- Environment Temperature: -10℃~45℃
- Operation Mode: Star-Delta(Y-Δ) Start
- Cabinet Color: Dark Gray or Customized
- Standard Control Cabinet Dimension(mm): 800×550×250
- IP Code: IP21

Interface Description

- Power Interface: 16 mm² Crimping Terminal
- Adapted Motor: AC Asynchronous Motor
- Brake Voltage: DC110 /AC220V, rated current ≤3A, Interface: 2.5 mm² Crimping Terminal
- Light Voltage: AC220V
- Cable Interface: 2.5 mm² Crimping Terminal



Research Building



Guesthouse Yongquan



Air Corridor

Step by Step, Dreams Come True



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