Smile3000-V Home Elevator Integrated Control Cabinet User Manual

Document Version:

Shenzhen Megmeet Electrical Co., Ltd. provides comprehensive technical support for our valued customers. Please contact your nearest Megmeet office or service center, or connect directly with Megmeet headquarters if any assistance is needed.

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Foreword

Thank you for choosing the Smile3000-V Home Elevator Integrated Control Cabinet of Shenzhen Megmeet Electrical Co., Ltd.

Megmeet is a dedicated innovator and leading player in driving forward industrial automation on a global scale. We connect the client's needs to their gains through cutting-edge technologies and comprehensive solutions.

The Smile3000-V Integrated Cabinet, independently engineered and manufactured by Megmeet, lifts the home elevator control performance onto a brand-new level. Synonymous with reliability and robustness, it incorporates a powerful controller and versatile modules into a highly efficient and compact layout, enclosed in a sleek casing for durability. The controller employs an avant-garde STO non-contactor technology and a strong SBC safety circuit for noiseless operations. Simplified wiring and fixed interfaces offer superb convenience for use and maintenance. The product is built from standard materials in an effort to promote environmental sustainability.

This manual includes introductions of models and features, instructions of installation and maintenance, and safety precautions of the Smile3000-V Home Elevator Integrated Control Cabinet. The user and operator of this product should thoroughly and carefully read this manual, and be fully familiarized with its contents before use and operations. Please save this manual for further reference.

Please read this manual carefully before using this product.

Strictly follow the safety instructions indicated in this manual to prevent personal injuries and property damages. Any injury or loss resulted from violations of such safety instructions is not the responsibility of our company.

The product/system covered in this document should be used/operated by qualified personnel only. Qualified personnel are those who meet all requirements for their work, have received necessary training on safety and product use, and possess adequate experience. Their operation should fully comply with the instructions provided in the document, in particular the safety warnings.

In case of any questions and requirements arising from the use/operation of this product, please contact our regional office or distributors, or connect directly with our technical service team. Megmeet is dedicated to bringing all-round satisfaction to our clients.

Due to our unwavering commitment to the continuous improvement in product quality and performance, all materials provided are subject to changes without prior notice.

Technical Features

The Smile3000-V Home Elevator Integrated Control Cabinet features a smart control system that incorporates advanced technologies in computing, automation, network communication, and motor vector control, offering a comprehensive solution for various elevator applications.

Technical superiority

- ✧ Direct-to-floor technology: optimal speed curve based on precise distance control, which offers smooth speed change and high running efficiency.
- ✧ Integrated design: seamless combination of elevator logic control and traction machine drive control; dual CPU; integrated communication of CANbus, Modbus, and IoT.
- ✧ No-load-cell startup torque compensation technology: smooth zero-speed elevator start which requires no load cell; applicable to various types of encoders and traction machines.
- ✧ With-load motor auto-tuning: with-load auto-tuning available for both permanent-magnet synchronous motors and asynchronous motors.

Excellent operability

- ✧ Compact layout based on functional integration of control and drive, convenient for small-machine-room and machine-room-less elevator design.
- ✧ Simplified parameter settings, making on-site commissioning much easier.
- ✧ On-panel keypad, which facilitates elevator inspection, maintenance, and commissioning.
- ✧ Load cell auto-tuning for all load levels.
- ✧ Multiple commissioning methods: PC host software, operating panel, and mobile phone App.
- ✧ In-car leveling precision adjustment.
- ✧ Balance coefficient automatic detection, and slippage detection.

Guaranteed safety

- ✧ Multiple protective measures, in compliance with the requirements of GB-T7588.1-2020 standard.
- ✧ Fault-tolerant design of both hardware and software; countermeasures against multiple categories of faults; countermeasures against the occurrence of accidents (such as top-hitting, and bottom-crashing), ensuring safe elevator operation.
- ✧ Highly proficient manufacturing capabilities ensure robust environmental adaptability, enabling the drive products to effectively withstand harsh working conditions, including power grid fluctuations, dust interference, high temperatures, and lightning strikes.
- ✧ Dual CPU, brake, and STO function.
- ✧ UCMP, braking force test, and door lock short-circuit detection.

Optimal comfortability

- ✧ No-load-cell technology or dedicated load cell compensation device, providing smooth startup torque compensation.
- ✧ Optimal vector control based on excellent motor drive performance to ensure comfort in riding.
- ✧ Non-contactor control technology to ensure noiseless operation.

Ultimate cost-efficiency

- ✧ High level of integration significantly simplifies the system and reduces the peripheral wiring, which enhances the cost efficiency, usability, and elevator safety and stability.
- ✧ Superb combination of CANbus and Modbus communication, which minimizes the number of traveling cables to the greatest extent.
- ✧ Flexible and diverse modular expansions.

Contents

Introduction

Basic functions

Function	Description
General operation	
Full collective selection operation	This function enables the elevator to respond to both car calls and hall calls during running. Passengers at any service floor can call the elevator by pressing the up/down call button.
Door open holding time setting	The door open holding time setting allows the elevator to automatically distribute different holding time for each door open mode, including open by call, open by command, protective open, and extended open.
Door open manual hold	During automatic operation, press the in-car door open holding button to extend the door open holding time for passengers in special condition to get in and out.
Door operator service floor setting	The system designates the floors where door open function is available.
Floor number display setting	The system allows a random combination of numbers and letters to be displayed as the indication of each floor for the convenience of use in special occasions.
Light curtain signal judgement	In case of any obstructions to the closing door, the light curtain protection will be initiated to stop the door closing and reopen the door.
Independent control for the front and rear doors	In case there are two doors in one elevator car, the system provides different automatic control modes for each door as required by the client.
Door re-close	In case the door lock is not applied immediately and the door stays unlocked for a certain amount of time after the door closes, the system will reopen and re-close the door.
Idle elevator returning to main floor	During automatic operation, the elevator will automatically return to the designated parking floor after a set time span of no call.
Landing floor change	In case the door open limit signal remains inactive when the actual time of the door open operation exceeds the door open protection time, the elevator will close the door, and automatically move the car to the next registered floor. An Err55 fault will then be reported.
Wrong call cancellation	The passenger can cancel the undesired car call by double-pressing the button.
Service floor	The system allows to enable/disable the service for one or more floors as required.

Function	Description
setting	
Time-based floor service	The system allows the setting of the time range and corresponding service floors for the time-based service, or to select the service floor via the service floor switch.
Low-speed self-rescue	When stopped in non-leveling area during non-inspection period, the elevator will automatically run to a leveling area at a low speed and opens the door if the state of the system is in compliance with the safety requirements.
Automatic startup torque compensation	Before running, the system automatically activates the startup torque compensation based on the current car load to improve the smoothness and the riding comfort during startup.
Direct travel ride	The system automatically generates the speed curve based on the distance, and directly transports the car to the leveling position without speed discontinuity.
Service suspension signal output	When the system fails to respond to hall calls, the corresponding terminal will output the signal of service suspension.
Running times recording	In the automatic running state, the system automatically records the running times of the elevator.
Running time recording	The system automatically records the accumulative working hours and working days of the elevator.
Automatic door open/close during door lock malfunction	In case any malfunctions are detected in the door lock circuit during the door open/close, the system will automatically reopen/re-close the door, and report a fault after a set number of failures.
Accessibility service for passengers with disabilities	When the elevator is on standby at the leveling position, if a call is input via the disability operating panel, the door open holding time will be extended; similarly, if a door open command is input via the disability operating panel, the door open holding time will be extended after the door opens.
Full-load direct travel ride	In the automatic operation state, a full-load car does not respond to hall calls from the passing floors. However, hall calls from these floors can still be registered, and will be executed in the next run.
Overload protection	The elevator will activate an alarm and stop running when the detected car load exceeds the rated load.
Electric brake release	In case of a power failure, press the EPB button to energize the ARD system, and keep pressing the brake release buttons SA1 and SA2 to activate the electric brake release circuit output. The elevator will move at a slow speed in the light-load direction after the tractor brake is released. If any of the two brake release buttons is released, the circuit output will stop (jog running with brake release).
Fault data recording	The system allows automatic recording of the details of the fault for the reference during maintenance.

Function	Description
Inspection and maintenance	
Maintenance panel	The elevator provides a detachable operating panel dedicated for maintenance only, with integrated functions including emergency stop, monitor, emergency electric operation, speed limiter test, electric brake release, keypad commissioning connection, mobile phone commissioning connection, and other functions.
Inspection running	During inspection, the system stops automatic running and door operation. Press the up/down button to activate the jog running at the inspection speed.
Motor auto-tuning	With-load/No-load motor auto-tuning via simple parameter setting.
Smart adjustment of leveling position	Each time the car arrives at the terminal floor, the system will automatically check and correct the car position via the level-1 slowdown switch. Meanwhile, the slowdown system is used to o eliminate the risk of top-hitting and bottom-crashing.
Speed limiter remote test	In EEO state, set P05-21 to 3 to enter the speed limiter test mode. The speed limiter test relay Y4 output will be activated after pressing the limiter test button RTB and the limiter reset button RRB for 3 seconds at the same time.
Test run	The test run for new elevators includes fatigue run, car call, hall call, hall call response prohibition, door open/close prohibition, terminal floor limit switch shielding, overload signal shielding, etc.
Inspection position limit	Set the inspection position limit to stop the car reaching the up/down limit position during inspection running. This function shall be used with the mechanical stop device to ensure the safety of the inspection personnel on the car top or in the pit.
Safety	
Smart auto-rescue (for synchronous motor only)	In case of malfunctions, this control cabinet will initiate the fault diagnosis and removal process. A driven/automatic brake-release rescue will be performed while safety is ensured. The system will transport the car to the leveling position at a low speed in the light-load direction, automatically open the door for evacuation after arriving at the door zone, close the door after the evacuation finishes, and stop the service to prevent a rerun of the elevator. Note: smart auto-rescue function is disabled for safety-related faults, including E13, E41, E42, E29, E36, E37, etc.
Auto-rescue in power off	The ARD module automatically monitors the power grid state, and activates the auto-rescue function upon a power blackout.
Elevator lockout	During automatic running, when the elevator lockout switch is activated or the set lockout time starts, the system will cancel all the registered calls, transport the car to the lockout floor, stop automatic operation, and turn off the in-car lighting and fan.
Position inspection	In case of any detected abnormal positioning, the elevator will move through each floor to the terminal floor for inspection and correction to ensure safety and

Function	Description
	normal operation.
Energy saving	
In-car energy saving	If there is no running commands within a set time period, the system will automatically cut off the power supply to the car lighting and fan.
Idle door machine energy saving	The system stops the door close signal output after the in-car lighting is turned off to reduce the power consumption of the door machine.
In-car lighting/fan control	• In-car lighting/fan control via the car panel ON/OFF reference input. • In-car lighting/fan control via a combination of floor buttons

Chapter 1 Important Safety Instructions

1.1 Safety announcements

(1) Before the installation, operation, and maintenance of this product, thoroughly and carefully read this manual, and comply with all the instructions indicated herein.

(2) To ensure safety for the personnel and property, closely follow the guidance on the stickers/signs, and the instructions in this manual during the installation, operation, and maintenance of this product.

(3) The "Caution," "Warning," and "Danger" notices in this manual do not represent all safety precautions that should be followed, but rather serve as supplements to all safety precautions.

(4) This product should be used in environments that meet the design specifications; otherwise, malfunction may occur. Issues such as abnormal function or component damage due to failure to comply with relevant regulations are not covered under product warranty.

(5) We will not be liable for any legal responsibilities arising from personal injuries and property losses caused by improper operation of this product.

1.2 Safety rating definitions and precautions

Sign	Definition
 Danger	It indicates that failure to operate according to instructions/requirements will result in death or serious personal injuries.
 Warning	It indicates that failure to operate according to instructions/requirements may result in death or serious personal injuries.
 Caution	It indicates that failure to operate according to instructions/requirements may result in minor personal injuries or property damage.

1.2.1 Unpacking and inspection instructions


Warning

- ✧ If any damages, corrosion/rust, or signs of previous use are found with the product or its accessories during unpacking, please do not install the product!
- ✧ If the product interior is found to be invaded with water, or any parts are found to be missing or damaged during unpacking, please do not install the product!
- ✧ Please carefully check the packing list. If you find discrepancies between the packing list and the product name during unpacking, please do not install the product!


Caution

- ✧ Before unpacking, please check the outer packaging of the product for any signs of damage, wetness, dampness, deformation, etc.
- ✧ Please open the packaging in order of layers. Do not hit/beat the package with force!
- ✧ Please check the surface of the product and its accessories for any damages, corrosion/rust, scratches, or other issues when unpacking.
- ✧ After unpacking, please carefully check the packing list to verify the quantity and completeness of the product and its accessories.

1.2.2 Safety instructions for storage and transportation


Warning

- ✧ Please make sure to use professional lifting equipment and have it handled by qualified personnel when moving large or heavy products. Otherwise, there is a risk of personal injury or product damage!
- ✧ Before lifting the product vertically, please ensure that the front cover, terminal blocks, and other structural components of the product are securely fastened with screws. Otherwise, there is a risk of components falling off, causing personal injury or product damage!
- ✧ When the product is lifted by lifting equipment, personnel are prohibited from standing or staying below the product.
- ✧ When lifting the product with steel wire rope, please use a constant and steady lifting speed, and keep a good balance for the product. Avoid vibration or impact on the product. Do not allow the product to overturn or remain suspended for extended periods. Otherwise, there is a risk of personal injury or product damage!


Caution

- ✧ When transporting or moving the product, please make sure to lift and place it with care. Always pay attention to your footing to prevent tripping or falling. Otherwise, there is a risk of personal injury or product damage!
- ✧ When handling the product with hands, please firmly grip the product or its enclosures to prevent components falling off. Otherwise,there is a risk of injury!
- ✧ Please strictly follow the requirements for transportation and storage. Otherwise, there is a risk of personal injury or product damage!
- ✧ Avoid storing and transporting in places prone to water splashes, direct sunlight, strong electric fields, strong magnetic fields, intense vibrations, etc.
- ✧ Avoid storing the product for more than 3 months. Please implement tighter protection and necessary inspections in case of extended storage period.
- ✧ Please make sure the product is adequately packaged before vehicle transportation.

Enveloped packaging must be used for long-distance transportation.

- ✧ It is strictly prohibited to place this product with equipment or items that may affect or damage it during transportation.

1.2.3 Safety instructions for installation


Danger

- ✧ Only professionals who have received electrical training and possess sufficient electrical knowledge are allowed to operate. Non-professionals are strictly prohibited from operating!


Warning

- ✧ Please carefully and thoroughly read this manual and get familiarized with the safety instructions herein before installation!
- ✧ Please do not install this product in locations with strong electric fields or strong electromagnetic interference!
- ✧ Before installation, make sure that the mechanical strength of the installation site is sufficient to support the equipment's weight, as inadequate support may result in mechanical hazards.
- ✧ During installation, avoid wearing loose clothing or jewelry. Otherwise, there is a risk of electric shock!
- ✧ When install the product in enclosed environments (such as inside a cabinet or enclosure), please employ cooling devices (such as fans, or air conditioners) for sufficient cooling as required by the product installation requirements. Otherwise, there is a risk of product over-heat or fire!
- ✧ Modifications to this product is strictly prohibited!
- ✧ It is strictly prohibited to loose the fixing screws/bolts and the screws/bolts with red marks on the product parts/components!
- ✧ When install this product inside cabinets or terminal equipment, make sure the cabinets and terminal equipment possess enclosures with adequate fireproof, electrical, and mechanical protection. The protection level should comply with relevant IEC standards and local legal and regulatory requirements.
- ✧ When there is a need to install equipment that causes strong electromagnetic interference, such as a transformer, please make sure a sufficient shielding device is installed to protect this product and avoid malfunctions!
- ✧ Please install the product on fire-resistant materials such as metal. Do not allow combustible materials to come into contact with the product or adhere to the product. Otherwise, there is a risk of fire!


Caution

- ✧ During installation, cover the top of the product with cloth or paper to prevent metal chips, oil, water, and other foreign objects, which may be produced during drilling, from entering the product and causing malfunctions. When the installation finishes, remove the cover to avoid blocking ventilation holes and affecting heat dissipation that could lead to abnormal heating of the product.
- ✧ When switch the constant-speed mode of the running device to the variable-speed mode, resonance may occur. Installing anti-vibration rubber under the motor frame or implementing vibration-suppression function can effectively mitigate resonance.

1.2.4 Safety instructions for wiring


Danger

- ✧ Strictly prohibit non-professionals from performing equipment installation, wiring, maintenance, inspection, and component replacement!
- ✧ Before wiring, please disconnect the voltage of all devices. After the power supply is shut off, residual power may remain in the internal capacitors. Please wait at least the time specified on the warning label on the product before proceeding with wiring operations. Measure the main circuit's DC voltage to confirm it is below a safe voltage, as there is a risk of electric shock otherwise!
- ✧ Please perform wiring operations, remove product covers, or touch circuit boards only when the power is disconnected, as there is a risk of electric shock otherwise.
- ✧ Please make sure that the equipment/product is properly grounded to avoid the risk of electric shock!


Warning

- ✧ Connecting the power supply input to the equipment/product output end is prohibited as this may cause product damage or fire!
- ✧ When connecting the drive equipment to the motor, make sure that the terminal phase sequence of the product matches accurately with that of the motor to avoid motor reverse rotation.
- ✧ Cables used for wiring must comply with the corresponding requirements on diameter and shielding performance. The shielding layer of the shielded cables shall be separately and reliably grounded.
- ✧ Please tighten the terminal screws with the torque specified in this manual. Insufficient/Excessive torque may cause overheating or damage to the connection, posing a fire hazard!
- ✧ When the wiring is completed, make sure that all cable connections are correct and there are no loose screws, washers, or exposed cables inside the product, as this

may pose a risk of electric shock or damage to the product!


Caution

- ✧ Please follow the steps specified for electrostatic discharge (ESD) prevention and wear an anti-static wrist strap when performing wiring operations to avoid damaging the equipment or internal circuits of the product.
- ✧ When wiring the control circuit, use shielded twisted pair cables, and connect the shielding layer to the grounding terminal of the product to prevent malfunctions.

1.2.5 Safety instructions for powering on


Danger

- ✧ Before powering on, please make sure the product installation and wiring are correct and secured, and that the motor allows restart.
- ✧ Before powering on, make sure the power supply complies with the product requirements to prevent product damage and risk of fire!
- ✧ It is prohibited in the power-on state to open the cabinet door or protective cover, touch any wiring terminals, dismantle any parts or components of the product. Otherwise, there is risk of electric shock!


Warning

- ✧ When wiring and parameter settings finish, please perform a trial run to confirm that the product can operate safely. Otherwise, there is a risk of personal injury or product damage!
- ✧ Before powering on, please make sure the power supply voltage matches accurately with the rated product voltage. Wrong power supply voltage may cause a fire!
- ✧ Before powering on, please make sure that there are no personnel around the product, motor, or machinery, as this could otherwise lead to injury or death!

1.2.6 Safety instructions for operations


Danger

- ✧ Non-professionals are prohibited from product operations. Otherwise, there is a risk of personal injury or death!
- ✧ In operation state, it is prohibited to touch any of the terminals, or disassemble any of the devices or components/parts. Otherwise, there is a risk of electric shock!


Warning

- ✧ Do not touch the equipment casing, fans, resistors, or other parts to test their temperature, as this could cause burns!
- ✧ During operation, avoid foreign items or metallic objects falling into the equipment, as this could cause fires or damage to the product!

1.2.7 Safety instructions for maintenance


Danger

- ✧ Non-professionals are prohibited from the installation, wiring, maintenance, inspection, and component replacement of this product!
- ✧ Maintenance in the power-on state is strictly prohibited. Otherwise, there is a risk of electric shock!
- ✧ After cutting off the power supply of all the devices, please wait at least the time specified on the product warning label before proceeding with maintenance.
- ✧ When using the permanent magnetic motor, the motor will keep rotating even after being cut off from the power supply, causing induced voltage on the motor terminals. In such circumstances, please do not touch the motor terminals. Otherwise, there is a risk of electric shock!


Warning

- ✧ Please perform daily and regular inspection and maintenance operations with the product in accordance with the specified requirements, and keep a complete record of inspection and maintenance.

1.2.8 Safety instructions for repair


Danger

- ✧ Non-professionals are strictly prohibited from the installation, wiring, maintenance, inspection, and component replacement of the product!
- ✧ Repair in the power-on state is strictly prohibited. Otherwise, there is a risk of electric shock!
- ✧ After cutting off the power supply of all the devices, please wait at least the time specified on the product warning label before proceeding with maintenance and repairs.


Warning

- ✧ Please perform the product maintenance and repair in accordance with the requirements specified on the product warranty agreement.
- ✧ In case of a blown fuse, a tripped circuit breaker, or a tripped ELCB, please wait at

least the time specified on the warning label on the product before switching on the power or operating the machine. Otherwise, personal injury or equipment damage may occur.

- ✧ When product malfunction or damage occurs, the fault removal and repairs must be performed by professionals in accordance with the maintenance and repair instructions, and a complete maintenance record shall be kept.
- ✧ Please follow the replacement instructions for wear parts replacement.
- ✧ Do not continue using the machine if it is damaged, as it may lead to personal injury or further damage to the product.
- ✧ After replacing the equipment, please ensure to conduct a thorough check of the device wiring and parameter settings.

1.2.9 Safety instructions for equipment disposal

Warning

- ✧ Please follow local regulations and standards for the disposal of equipment/product to prevent property loss or personal injury!
- ✧ Make sure to follow the industrial waste treatment standards for the recycling of the discarded equipment/product to prevent environmental pollution.

1.3 Additional safety instructions

- **Air switch requirement for the integrated control cabinet**

To prevent abnormal situations such as short circuits or overloads in downstream loads of the integrated control cabinet, it is necessary to install a circuit breaker upstream of the power supply to the integrated control cabinet:

Control cabinet	Mains voltage	Circuit breaker
Smile3000-V-2S1.2	AC 220 V (single-phase)	⩾10 A
Smile3000-V-2S2.2	AC 220 V (single-phase)	⩾18 A
Smile3000-V-2S3.7	AC 220 V (single-phase)	⩾32 A
Smile3000-V-4T5.5	AC 380 V (three-phase)	⩾18 A

- **RCD requirement**

The running device may generates large leakage currents flowing through the protective grounding conductor. For normal operations and product protection, please install a type-B RCD upstream of the lighting power supply 501 and 502 of the integrated control cabinet. When selecting the RCD, please consider the transient and steady-state ground leakage current that may occur during the device

startup and operation, and choose a dedicated RCD with measures to suppress high-order harmonics, or a general-purpose RCD with a higher residual current.

- **High grounding leakage currents warnings**

The running device may generates large leakage currents. Please ensure reliable grounding before connecting to the power supply input. The grounding of the device must comply with the local regulations and relevant IEC standards.

- **Motor insulation inspection**

Motor insulation must be inspected during initial use, after prolonged periods of disuse, and at regular intervals to prevent damage to the integrated controller due to insulation failure in motor windings. Insulation checks should be performed with motor wiring disconnected from the controller, using a 500 V megger. Make sure the measured insulation resistance is not less than 5MΩ.

- **Motor thermal protection**

In case the rated capacity of the motor does not match that of the Smile3000-V Home Elevator Integrated Control Cabinet, especially when the rated power of the controller exceeds that of the motor, please make sure to adjust the motor protection parameters of the integrated control cabinet or install a thermal relay upstream of the motor for protection.

- **Use beyond rated voltage values**

If external voltages deviate from the standard operating voltage specified in this manual, customers must inform Megmeet for modification services. Failure to do so can lead to component damage and other hazardous situations.

- **Safety instructions for wiring cables**

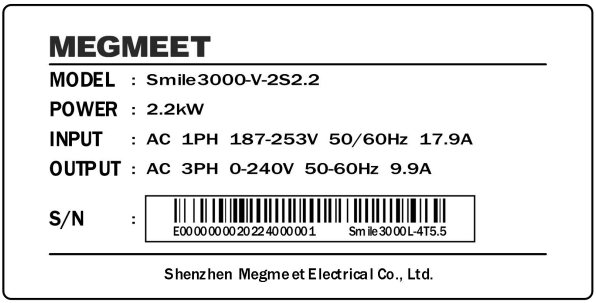
During installation, make sure to follow the diameter and withstand voltage requirements when selecting the power cables and the input cables of the control power supply. Input and output cables must be separately wired to prevent cross-wiring and insulation damage that could cause hazards;

Signal cables and power cables must be wired separately. Make sure to employ shielded twisted pair cables as the analog signal cables, with one end reliably grounded.

Chapter 2 Product Information

2.1 Nameplate and model

2.1.1 Product nameplate



2.1.2 Product naming rule

Smile3000 – V – 2S 1.2
① ② ③ ④

Number	Item	Description	Number	Item	Description
①	Product name	Smile3000	③	Voltage rating	2S: Single-phase AC 220 V 4T: Three-phase AC 380 V
②	Type of the control cabinet	V: dedicated for home elevators	④	Power rating	1.2: 1.2 kW 2.2: 2.2 kW 3.7: 3.7 kW 5.5: 5.5 kW

2.2 Product models

Model	Power capacity (kVA)	Input current (A)	Output current (A)	Power (kW)
Smile3000-V-2S1.2	1.8	8.8	5.5	1.2
Smile3000-V-2S2.2	4	17.9	9.9	2.2
Smile3000-V-2S3.7	6	25.3	18	3.7

Model	Power capacity (kVA)	Input current (A)	Output current (A)	Power (kW)
Smile3000-V-4T5.5	8.5	15	13	5.5

2.3 Electrical specifications

- Safety circuit power supply: DC 24 V, 0.5 A.
- 24 V system power supply: DC 24 V, 3 A.
- Brake power supply output: DC 110 V, 2.4 A.
- Speed limiter coil control power supply: AC 220 V.

Cabinet model	Voltage rating	Rated power	Rated current	Braking resistor
Smile3000-V-2S1.2	AC 220 V (Single-phase)	1.2 kW	5.5	Power: 300 W Resistance: 130 Ω
Smile3000-V-2S2.2	AC 220 V (Single-phase)	2.2 kW	9.9	Power: 600 W Resistance: 130 Ω
Smile3000-V-2S3.7	AC 220 V (Single-phase)	3.7 kW	18	Power: 1600 W Resistance: 40 Ω
Smile3000-V-4T5.5	AC 380 V (Three-phase)	5.5 kW	13	Power: 1800 W Resistance: 100 Ω

2.4 Cabinet appearance and parts description

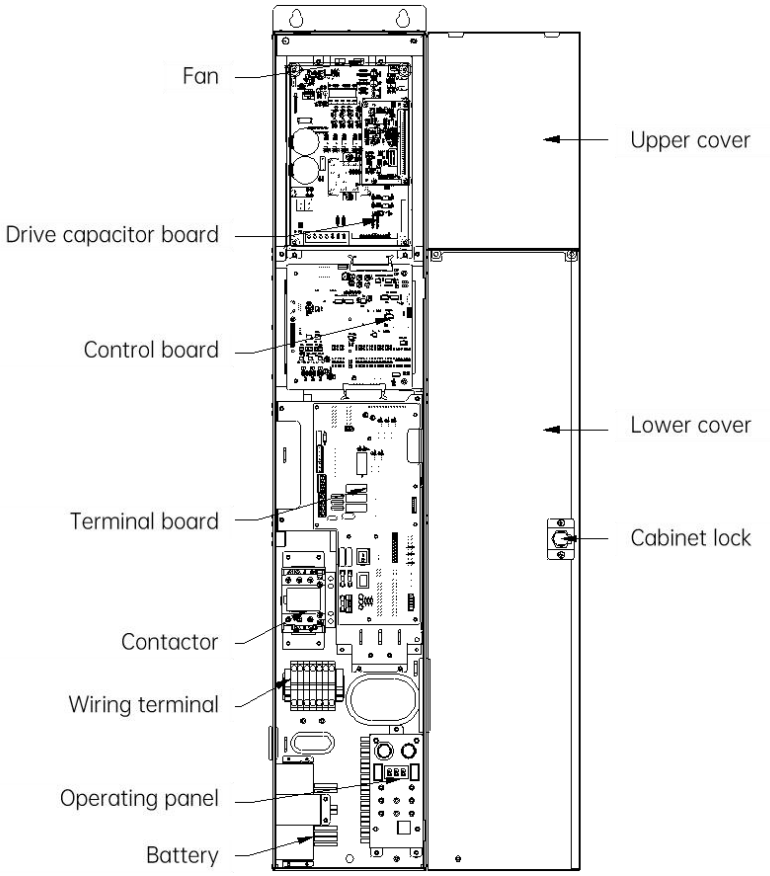


Fig. 2-1 Layout of cabinet top layer

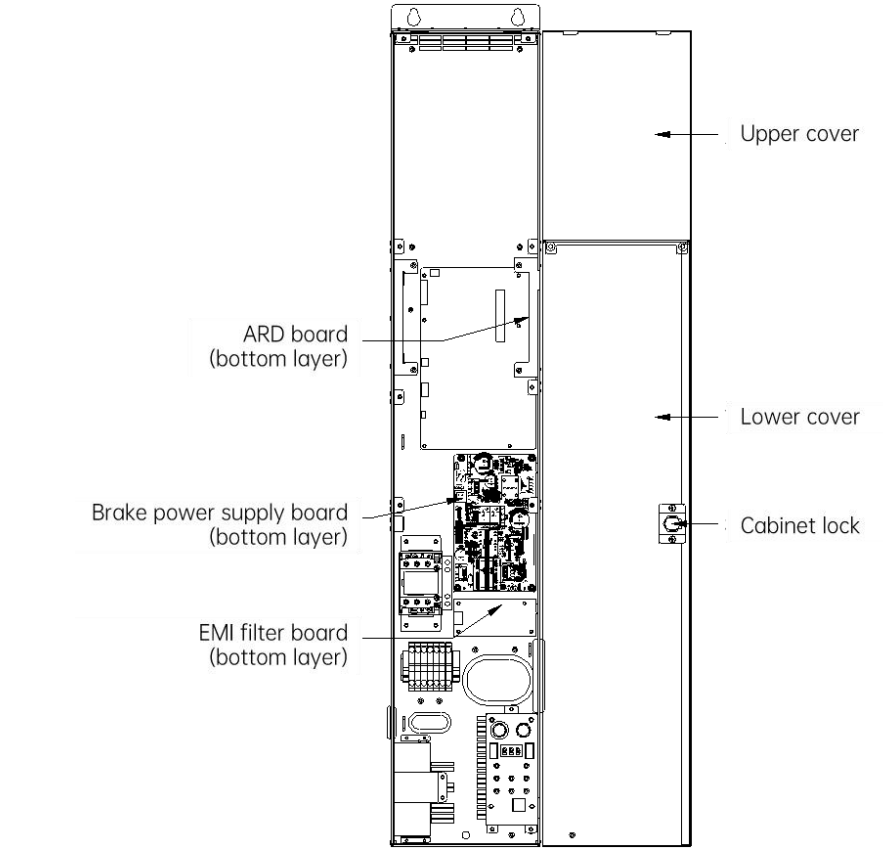


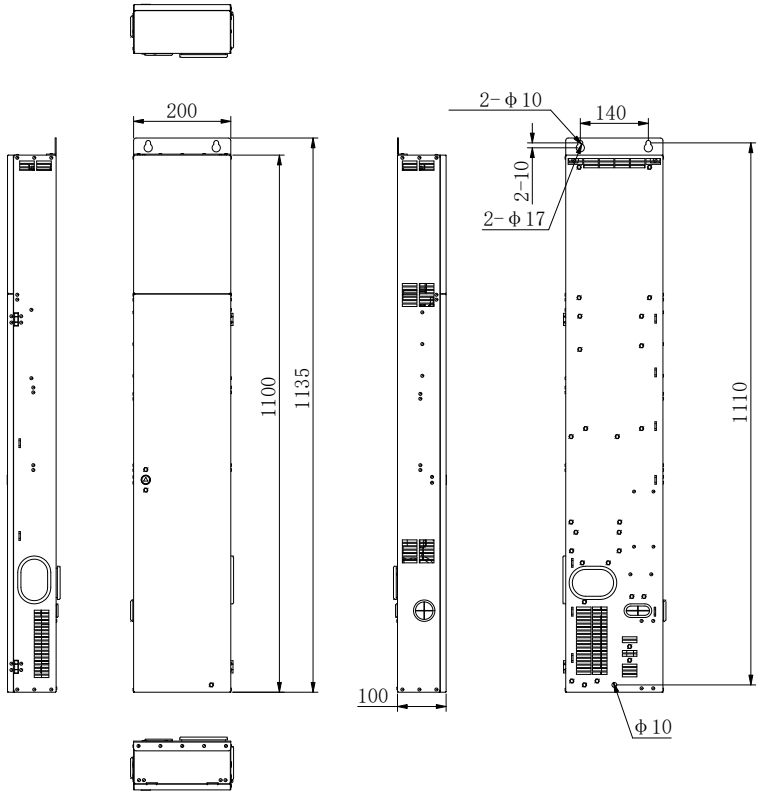
Fig. 2-2 Layout of cabinet bottom layer

Table 2-1 Parts function

Parts	Function
Main control board	Control unit of the integrated control cabinet
Drive board	Drive unit of the integrated control cabinet
Terminal board	External terminals and operating interface
Braking resistor	During braking, the resistor consumes the electrical energy generated by the host machine.
IoT module	4G IoT monitor (optional)
Brake power supply board	Provides safety circuit power supply, 24 V system power supply, and brake power supply

Parts	Function
ARD board	Emergency rescue
Lead-acid battery	ARD emergency rescue battery
Lithium battery	ARD emergency rescue battery
PG card	Options available: Smile3000-PG-S card, applicable for SIN/COS encoders; Smile3000-PG-P card, applicable for ABZ asynchronous motor encoders。

2.5 Mounting dimension



2.6 Technical specifications

Item	Specification
Basic specifications	
Input voltage	AC 220 V cabinet: AC 187 V to AC 253 V AC 380 V cabinet: AC 323 V to AC 437 V
Max. frequency	99 Hz
Carrier frequency	2 kHz to 16 kHz; automatic adjustment of carrier frequency based on load characteristics
Motor control mode	Closed-loop vector control
Startup torque	0 Hz / 200% (closed-loop vector control)
Speed adjustment range	1:1000 (closed-loop vector control) 1:50 (V/F control)
Speed stability accuracy	±0.05% (closed-loop vector control)
Torque control accuracy	±5% (closed-loop vector control)
Over-load capacity	60 s for 150% of rated current; 10 s for 200% of rated current
Motor tuning	With-load tuning; no-load tuning
Distance control	It enables flexible adjustment of direct docking modes in leveling position.
Acceleration and deceleration curves	Automatic generation of multiple speed curves
Elevator slowdown	Innovative and reliable slowdown function with automatic identification of the deceleration frame
Shaft auto-tuning	Accurate 32-bit recording of shaft position
Leveling adjustment	Flexible leveling adjustment
Startup torque compensation	It calculates the appropriate startup pre-torque with coordination of the load cell; no-load-cell pre-torque self-adaption function is also available.
Real-time clock	It provides ultra-high-accuracy real-time clock for multiple functions, including time-based service and automatic password.
Test function	It provides multiple elevator commissioning functions with ultra convenience.
Fault protection	Comprehensive and multi-category elevator fault classification and handling
Intelligent management	It provides remote monitoring and user management.

Item	Specification
Safety self-check at power-on	It provides safety check for peripheral devices, such as grounding and short circuit, when powered on.
Status monitoring	It assesses the elevator's operational status based on various feedback signals to ensure normal operation.
Operation & commissioning	
Cabinet operating panel	Emergency stop switch, emergency electrical operation (EEO) switch, EEO up/down button, speed limiter test, and electrical brake release control are available.
Monitoring interface	2-digit monitoring display of the status of all the DI/DO on the MCB and the CTB, and the status of all the communication
Mobile phone commissioning APP	Bluetooth module connected externally to the MCB enables communication with mobile devices for elevator commissioning and parameter upload/download via mobile phone commissioning APP.
Environment	
Altitude	Lower than 1000 m (derated by 1% for each 100 m higher if the altitude is above 1000 m)
Ambient temperature	-10℃ to +45℃ (derated use if the ambient temperature is above 40℃)
Humidity	Less than 95%RH, no condensing
Vibration	Less than 5.9m/s² (0.6 g)
Storage temperature	-20℃ to +60℃
Pollution degree	PD20
IP rating	IP20
Applicable power grid	TN/TT

Chapter 3 Mechanical Installation

3.1 Installation requirements

3.1.1 Safety requirements on environment

Item	Requirement
Altitude	Normal use at an altitude less than 1000 m; derated by 1% for every 100 m higher when the altitude is above 1000 m; max. altitude 3000 m.
Ambient temperature	0℃ to +45℃, ambient temperature change less than 0.5℃/min; derated by 1.5% in rated current for every 1℃ higher when the temperature is above 40℃; max. ambient temperature 50℃.
Humidity	Less than 95% RH, no condensing
Vibration	Less than 5.9m/s^2 (0.6 g)
Height	In case the cabinet is installed in a machine room, the clear height of the machine room working area shall not be less than 2.5 m.
Spacing in front of cabinet	Make sure to reserve a 0.5 m * 0.7 m clearance area in front of the cabinet for inspection and repairs.
Ventilation	Adequate ventilation should be provided in the machine room to protect the control cabinet and cables from dust, harmful gases, and moisture damage.

Caution

Control cabinets should be installed in environments with temperatures ranging from 0° C to +45°C. Temperatures outside this range, especially below 0°C, can adversely affect the charging and discharging performance of lithium batteries and may even lead to battery failures.

3.1.2 Installation direction and space requirements

For the dimensions of the control cabinet and the installation diagram of the base plate, please refer to the relevant drawings in the technical documentation. All parts of the cabinet should be installed according to the drawings, with sufficient peripheral spacing to ensure adequate airflow, maximum door swing, and space required for maintenance. Provide access pathways (with sufficient width) to the installation site and make sure space is available for the transportation equipment of the product.

Under normal conditions, embedded installations have higher spatial requirements. This manual provides the spatial requirements for the embedded installations only. The connection shall be made between the shaft and the back of the device. The clear height of the room for installation shall be more than the cabinet installation height and no less than 2000 mm. The distance from the front of the device to the wall must not be less than 700mm. There are no special requirements for the distance from the side of the device to the wall; however, make sure the device can be properly installed.

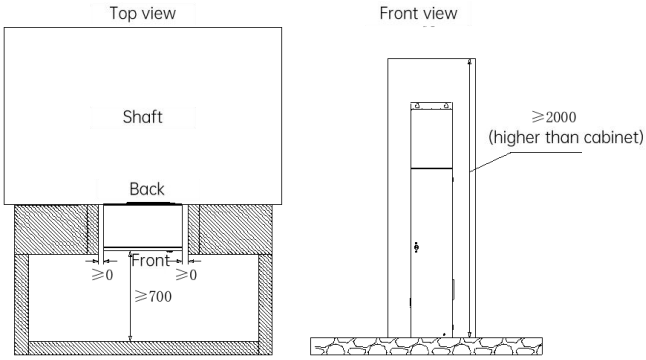


Fig. 3-1 Cabinet installation space (unit: mm)

3.1.3 Installation method

For wall-mounting installations, please fix the cabinet onto the wall via three M8 expansion bolts as shown in the figure below:

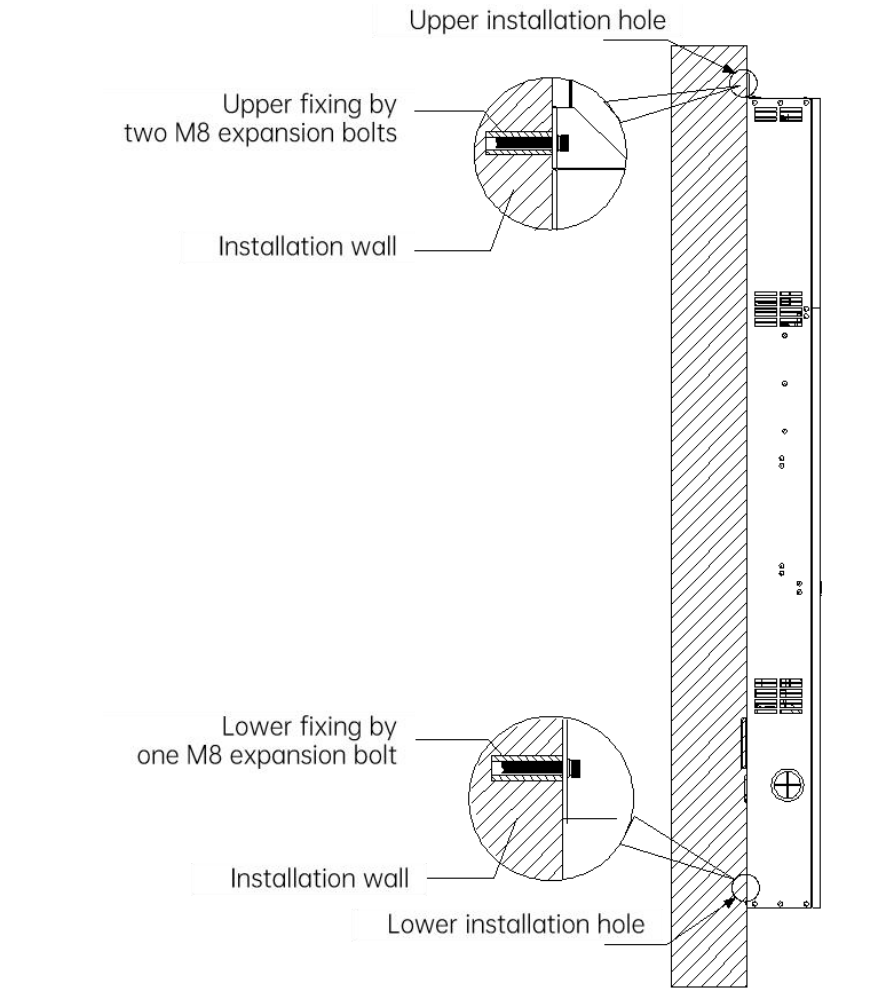


Fig. 3-2 Wall-mounting installation

3.2 Shaft position switch installation

In elevator control, shaft position signals are crucial for identifying the car position, ensuring accurate floor leveling and operational safety. Shaft position signals include: leveling signals, up/down slowdown switches, and up/down final limit switches, which are transmitted directly to the control cabinet via shaft cables.

The distribution of shaft position switches within the shaft is illustrated in the following figure:

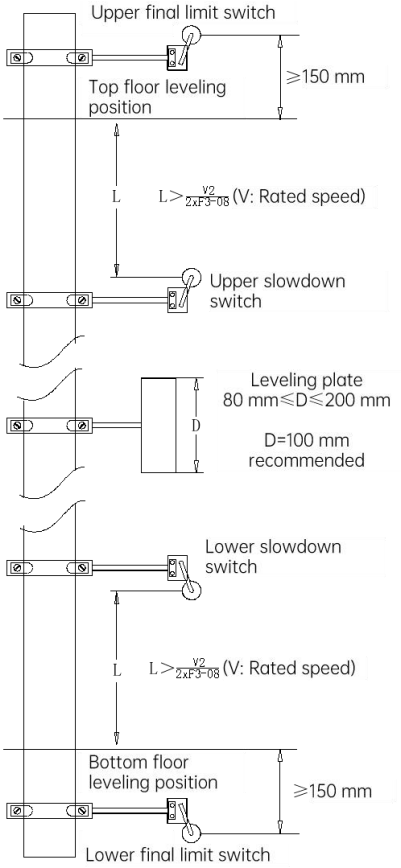


Fig. 3-3 Shaft position switches

Note:

- ✧ The Smile3000-V Home Elevator Integrated Control Cabinet provides software limit function, with no need to install the upper/lower limit switches.
- ✧ It is recommended to employ one leveling switch only for the Smile3000-V Home Elevator Integrated Control Cabinet. The appropriate length of the leveling plate is 100 mm.

3.2.1 Leveling switch installation method

The Smile3000-V control cabinet employs one leveling switch by default, which shall be installed on top of the car. The leveling plate shall be installed on the shaft guide rail. There shall be one leveling plate installed for each floor, and make sure that the length and installation verticality of each leveling plate shall be the same.

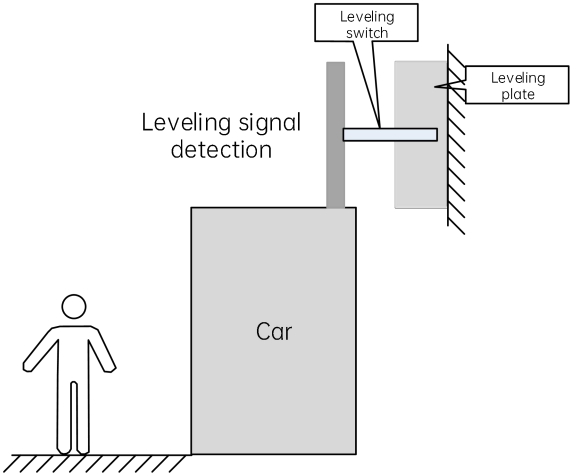
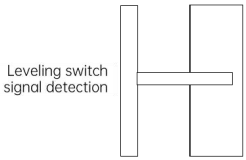
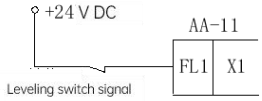
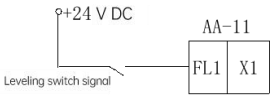


Fig. 3-4 Leveling switch installation position

Number of leveling switches	Installation method	Connection to the input terminal	Parameter setting
1			P06-01=101 (Closed)
			P06-01=01 (Open)

3.2.2 Slowdown switch installation method

The slowdown switch is an important safety device as it prevents the risk of top-hitting and bottom-crashing accidents when an abnormal elevator position is detected during running at the highest speed.

The slowdown distance means the distance between the slowdown switch and the terminal floor leveling plate, which is indicated by L. The calculation of L is shown below:

$$L > \frac{V^2}{2XP05 - 08}$$

L: slowdown distance. V: elevator rated speed (P00-04). P05-08: special deceleration.

The default value for special deceleration (P05-08) is 0.9m/s². Since the speed of home elevators generally does not exceed 0.4m/s, the lower limit values calculated by the above formula for L are very small. For ease of installation, it is recommended that L be within the range of 150 mm≤L≤500 mm.

3.2.3 Final limit switch installation method

The upper/lower final limit switch is the electrical forced-stop switch designed to prevent the elevator from top-hitting or bottom-crashing accidents when it has not completely stopped at the upper or lower limit positions.

- The upper final limit switch shall be installed above the top floor leveling switch with a distance of 150 mm above the top floor leveling position.
- The lower final limit switch shall be installed below the bottom floor leveling switch with a distance of 150 mm below the bottom floor leveling position.

Chapter 4 Electrical Installation

Each elevator must be equipped with a dedicated main switch capable of cutting off all the power supply circuits of this elevator, and a RCD with a leakage current of 30 mA specifically for cutting off the elevator lighting circuits.


Caution

- ✧ Peripheral cables of the control cabinet must be complete.
- ✧ Make sure to follow the diameter and withstand voltage requirements of the power cables and the control power supply input cables.
- ✧ Input and output cables must be separately wired to prevent cross-wiring and insulation damage that may cause hazards.
- ✧ Signal cables and power cables must be wired separately. Make sure to employ shielded twisted pair cables as the analog signal cables, with one end reliably grounded.
- ✧ Inside the control cabinet, there must be no missing short-circuit cables. Otherwise, there is a risk of danger.

4.1 Control cabinet external interface

The Smile3000-V Home Elevator Integrated Control Cabinet adopts fixed option interfaces to facilitate wiring and reduce the cable quantity. For peripheral wiring, customers can require a supporting service from Megmeet, or perform wiring by themselves based on the schematic diagrams provided by Megmeet.

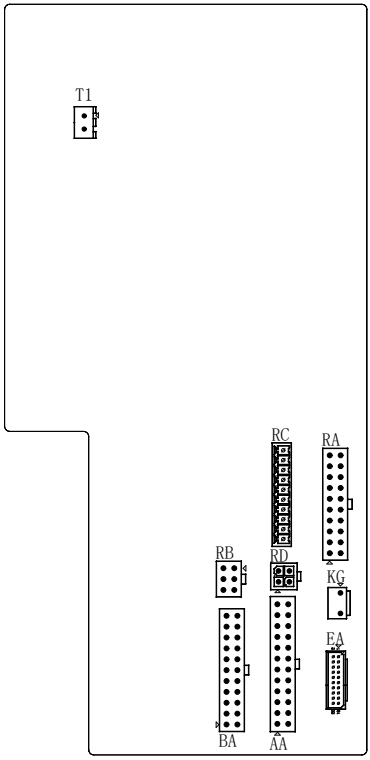
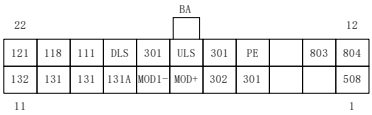
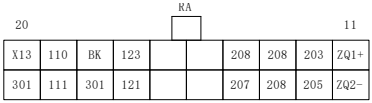


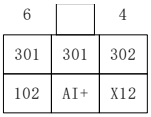
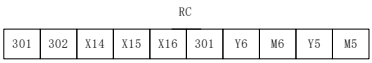
Fig. 4-1 Terminals on external interface

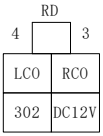
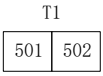
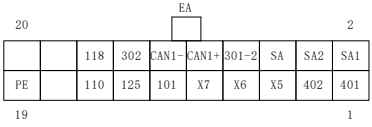
Table 4-1 Description of terminals on external interface

Option	Signal number	Description	
Power terminal	Power terminal (AC 220 V) L N DC+ PB U V W	L/N	System power supply input L/N (AC 220 V cabinet)
		DC+/PB	Braking resistor connection DC+/PB
		U/V/W	Motor W phase / motor V phase / motor U phase
AA option	AA 24 13 123 130 131A DC12V RCD LCD 208 207 125 DZI CAN- CAN+ 302 301 PE 508 507 12 1	507	In-car lighting power supply: L
		508	In-car lighting power supply: N
		PE	Ground protection

Option	Signal number	Description	
		301	Power supply DC 24 V +
		302	Power supply DC 24 V -
		CAN1+	CAN communication signal
		CAN1-	CAN communication signal
		DZI	Door zone signal
		125	Emergency electrical signal
		207	Door machine power supply: L
		208	Door machine power supply: N
		LCO	Intercom signal positive
		RCO	Intercom signal negative
		DC12V	Intercom power supply DC 12 V
		131A	Car door lock circuit ending point
		130	Car door lock circuit starting point
		123	Car top safe starting point
BA option		508	Shaft lighting: N
		301	Power supply DC 24 V +
		302	Power supply DC 24 V -
		MOD1+	485 communication signal
		MOD1-	485 communication signal
		131A	Manual door close contact circuit starting point
		131	Manual door close contact circuit ending point
		131	Landing door lock circuit

Option	Signal number	Description	
			starting point
		132	Landing door lock circuit ending point
		804	Shaft lighting: L
		803	Shaft lighting: L
		301	Power supply DC 24 V +
		ULS	Up slowdown signal
		301	Power supply DC 24 V +
		DLS	Down slowdown signal
		111	Shaft safety circuit starting point
		118	Emergency electrical shaft bottom short contact
		121	Shaft safety circuit ending point
RA option		ZQ2-	Brake power supply negative
		205	Speed limiter test power supply: N
		208	Speed limiter reset power supply: N
		207	Steel belt detection device power supply: L
		121	Speed limiter switch starting point
		301	Power supply DC 24 V +
		111	Motor emergency stop safety circuit ending point
		301	Motor over-heat detection power supply DC 24 V +

Option	Signal number	Description	
		ZQ1+	Brake power supply positive
		203	Speed limiter reset power supply
		208	Speed limiter test power supply: N
		208	Steel belt detection device power supply: N
		123	Speed limiter switch ending point
		BK	Brake travel switch detection input
		110	Motor emergency stop safety circuit starting point
		X13	Motor overheat detection signal input
RB option		301	Power supply DC 24 V +
		102	Safety circuit end (for measuring circuit voltage)
		301	Power supply DC 24 V +
		AI+	Analog load cell
		302	Power supply DC 24 V -
		X12	Digital over-load signal input
RC option		301	Power supply DC 24 V +
		302	Power supply DC 24 V -
		X14	Backup DI
		X15	Backup DI
		X16	Backup DI
		301	Power supply DC 24 V +

Option	Signal number	Description	
		Y6	Backup relay Y6 output
		M6	Backup relay Y6 common terminal
		Y5	Backup relay Y5 output
		M5	Backup relay Y5 common terminal
RD option		DC12V	Intercom power supply DC 12 V +
		302	Intercom power supply DC 12 V -
		LCO	Intercom signal positive
		RCO	Intercom signal negative
T1 terminal		501	Lighting power supply: L
		502	Lighting power supply: N
EA		-	Terminal connected to the operating box
KG		NO	Operating box main switch power supply ending point
		Y7N	Operating box main switch power supply starting point

4.2 Input/Output terminal description

Terminal	Parameter	Function
X1	P06-01	Door zone signal
X2	P06-02	Brake control output feedback 1
X3	P06-03	Brake control output feedback 2
X4	P06-04	STO feedback

Terminal	Parameter	Function
X5	P06-05	Emergency electrical operation (EEO)
X6	P06-06	Emergency electrical upward run
X7	P06-07	Emergency electrical downward run
X8	P06-08	Up slowdown
X9	P06-09	Down slowdown
XS1	P06-25	Safety circuit
XS2	P06-26	Door lock circuit 1
XS3	P06-27	Door lock circuit 2
Y1	P06-35	RUN contactor output
Y2	P06-36	Brake contactor output
Y5	P06.39	Electromagnetic lock output

4.3 PG card

Smile3000-V control system requires the cooperation of PG card to achieve closed-loop vector control. Directly insert the PG card CN2 terminal into the CN1 terminal on the main control board of the Smile3000-V cabinet.

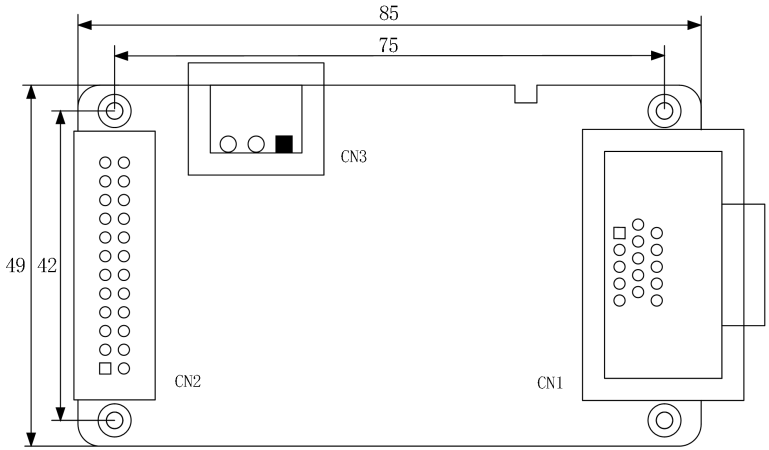


Fig. 4-2 Smile3000-PG-S card appearance and dimensions (unit: mm)

Table 4-2 PG card CN1 terminal definition

CN1 pin definition															CN1 terminal layout
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
B-	-	Z+	Z-	A+	A-	COM	B+	VCC	C+	C-	D+	D-	-	-	

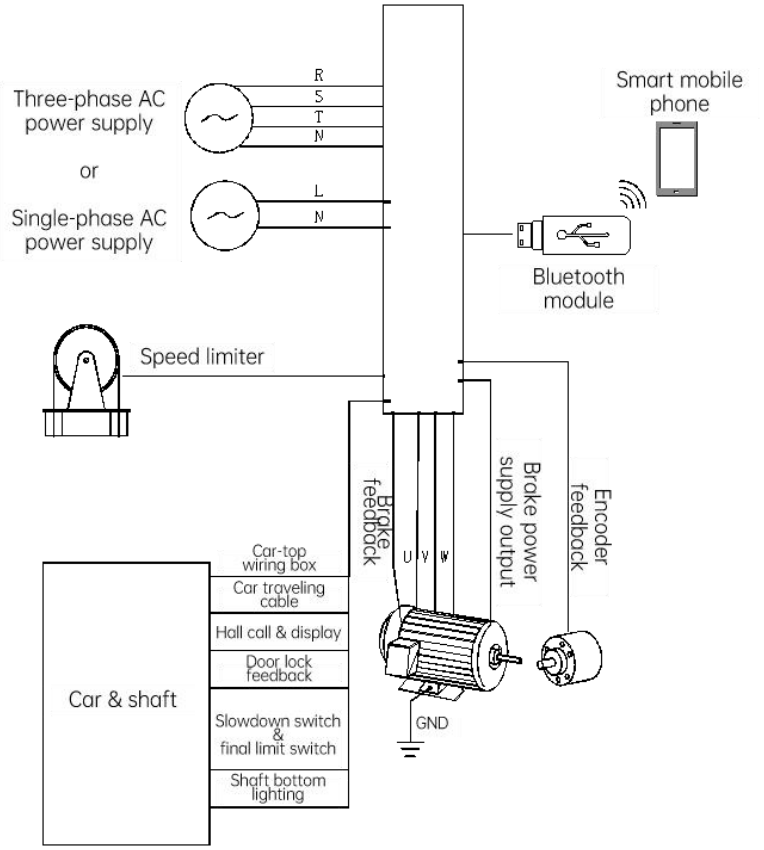
Instructions on PG card connection:

(1) The cable routing from the PG card to the encoder must deviate from that of the control circuit and the power circuit. Close-distance parallel routing is strictly prohibited;

(2) Make sure to employ shielded cables for the connection between the PG card and the encoder. The shielding layer end close to the controller shall be connected to the PE terminal (it is recommended to be separately grounded to minimize the impact of interference).

(3) The cable from the PG card to the encoder must be routed through a separate conduit, and the exterior metal layer must be reliably grounded.

4.4 Peripheral device connection



Chapter 5 Operating Panel

5.1 Operating box interface

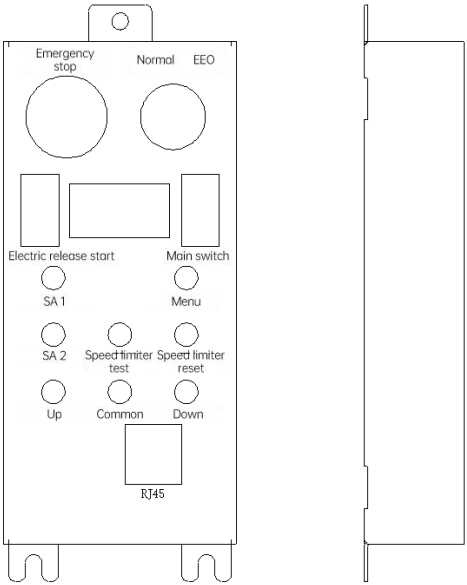


Fig. 5-1 Operating panel

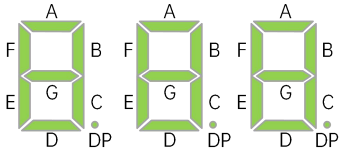
This operating panel integrates all the test functions and emergency operations.

Table 5-1 Instructions of panel operation

Function	Mark	Description
Main switch	Main switch	Control contactor to power on/off the whole control cabinet
Safety switch	Emergency stop	Cut off or open the safety circuit
Emergency electrical operation	EEO	Switchover between the normal state and the emergency electrical state
	Up	In the emergency electrical state, press the Up and Common buttons at the same time to activate emergency electrical upward running, and press the Down and Common buttons at the same time to activate emergency electrical downward running.
	Common	
	Down	
Speed limiter test function	Speed limiter test	In EEO state: • P05-21=3 enter the speed limiter test mode
	Speed limiter	

Function	Mark	Description
	reset	• P05-21=4 enter the speed limiter reset mode • Keep pressing the speed limiter test and reset buttons at the same time for 3 seconds to initiate Y4/Y5 output (Y4 output in test mode, Y5 output in reset mode) • Only AC 220 V speed limiter is supported.
Electric brake release function	Electric release start	When the cabinet is completely powered off, keep pressing the button for 5 seconds to activate the ARD board power supply chip.
	SA1	Keep pressing the SA1 and SA2 buttons at the same time for 10 seconds to initiate the output of the electric brake release circuit, and the tractor brake opens. The elevator moves in the light-load direction at a low speed (jog release running). Note: The electric brake release function is applicable only after the control cabinet is completely powered off.
	SA2	
RJ45	-	Connect to the operator for elevator commissioning
USB	-	Connect to the Bluetooth module for elevator commissioning via the mobile phone.

5.2 Operating box monitoring function



Explanation:

- ✧ When any section of the LED display illuminates, it indicates that the signal input/output via the corresponding input/output point is enabled.
- ✧ The status display and NO/NC setting of the MCB and the CTB are disabled. For example: X1 is set as the door zone input.
- ✧ When the P06-01 is set to 3 (NO), and section A corresponding to X1 illuminates in case there is a DC 24 V input at this point, it indicates that the door zone signal input is enabled, which means the leveling plate reaches the leveling sensor and the car is in the leveling position at the moment.
- ✧ When the P06-01 is set to 103 (NC), and section A corresponding to X1 illuminates in case there is no DC 24 V input at this point, it indicates that the door zone signal input is enabled, which

means the leveling plate reaches the leveling sensor and the car is in the leveling position at the moment.

Chapter 6 System Commissioning

6.1 Safety inspection before commissioning

When the elevator installation is completed, the commissioning may start. Proper commissioning ensures the elevator operates safely and correctly. Before electrical commissioning, it is necessary to check if the mechanical and electrical parts are ready for commissioning so as to ensure safety. During commissioning, at least two personnel are required to be working on site at the same time. Immediately cut off the power supply if any abnormal situation occurs.

(1) Mechanical safety inspection

Make sure the shaft is unobstructed and clear, with no people in the shaft, inside the car, or on the car top. Make sure the condition of the elevator and its peripheral facilities is ready for safe running.

(2) Electrical wiring inspection

☐ √	Number	Confirmation
☐	1	Check if the power supply input terminal (L/N or R/S/T/N) connection is correct and secured.
☐	2	Check if the wiring (U/V/W) connection between the controller and the motor is correct and secured.
☐	3	Check if the controller (control cabinet) and the motor are properly grounded.
☐	4	Confirm that the safety circuit is completely conductive, and that the emergency stop buttons and switches of the cabinet and in the machine room function correctly and reliably.
☐	5	Confirm that the door lock circuit is conductive, and that the door lock circuit is disconnected after the car door or any landing opens.

(3) Electrical inspection

☐ √	Number	Confirmation
☐	1	Confirm that the customer's power supply line voltage is within the required range: AC 220 V control cabinet: 220 V to 240 V; AC 380 V control cabinet: 380 V to 440 V.
☐	2	Check if the specifications of the main inlet cables and the capacity of the main switch comply with the requirements.
☐	3	Check if there is a short circuit between the input power supply L/N phases, and between the input power supply L/N phase and the ground.
☐	4	Check if there is a short circuit between the controller U/V/W phases, between the controller U/V/W phase and the ground, and between the motor U/V/W phase and

☐ √	Number	Confirmation
		the ground.
☐	5	Check if there is a short circuit between the customer's input power supply phases, and between the phase and the ground.
☐	6	Check if there is a short circuit between the DC 24 V and the ground.
☐	7	Check if there is a short circuit between the CAN/MOD communication cable and the 24 V power supply, and between the CAN/MOD communication cable and the ground.

(4) Rotary encoder inspection

☐ √	Number	Confirmation
☐	1	Check if the encoder is securely installed, and if the wiring is reliable.
☐	2	Check if the encoder signal cable and the high-voltage cable are arranged in separate conduits to prevent interference.
☐	3	Direct cable connection between the encoder and the cabinet is preferred. If cable extension is needed in case of insufficient length, make sure to use the same shielded cable as the extension, and the joint between the extension and the original cable shall be securely welded.
☐	4	Make sure the shield of the encoder cables is reliably grounded on the end connected to the controller (only one end is grounded to prevent interference).

6.2 Inspection-speed commissioning

The Smile3000-V Home Elevator Integrated Control Cabinet provides the closed-loop vector control mode, which is highly dependent on the accuracy of motor parameters for the purpose of normal elevator running. Accurate parameter setting of the corresponding motor is the precondition for the full performance and efficiency of the controller.

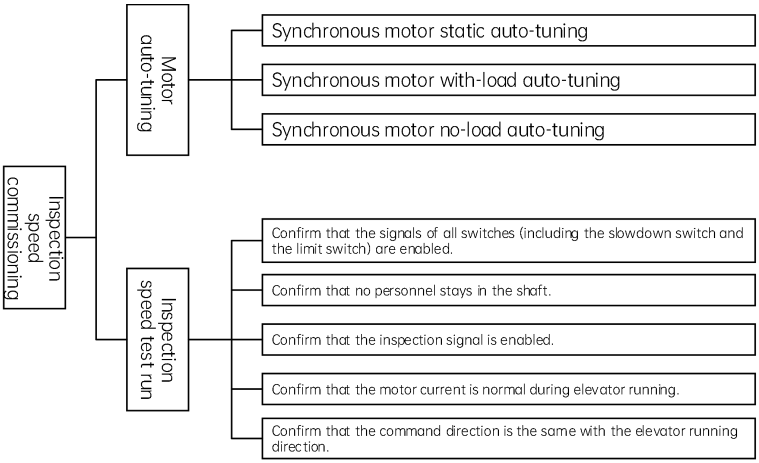
Caution

- ✧ Before inspection-speed commissioning, confirm that all the installation and wiring comply with the electrical safety requirements;
- ✧ During tuning with the car, pay special attention to the motor running direction to prevent the car running too close to the terminal floor; it is recommended to place the car on a floor far from the terminal floor (e.g. two floors away from the terminal floor) to start the commissioning;
- ✧ Some of the control cabinets employ EEO instead of inspection operation control. In EEO mode, part of the shaft safety circuit is short-circuited. During the inspection-speed commissioning of EEO, pay special attention to the safety of personnel and equipment when the car is running close to the terminal floor.

Danger

- ✧ During motor tuning, the motor may rotate. Please keep a safe distance with the motor to avoid personal injury;
- ✧ During with-load commissioning, make sure that no one stays in the shaft. Otherwise, there is a risk of personal injury or death.

The inspection-speed commissioning comprises two parts: motor tuning and inspection-speed test run.



6.2.1 Motor auto-tuning

6.2.1.1 Parameters related to motor auto-tuning

Parameter	Definition	Description
P02-00	Motor type	0: Asynchronous motor 1: Synchronous motor
P02-08	Encoder type	0: SIN/COS 1: UVW 2: ABZ 3: Reserved
P02-09	Encoder resolution	0 to 10000
P02-01 to P02-05	Motor rated power Motor rated voltage Motor rated current	These parameters are model dependent, and need to be manually input according to the nameplate.

Parameter	Definition	Description
	Motor rated frequency Motor rated speed	
P00-01	Command source selection	0: Operation panel control 1: Distance control
P02-11	Tuning mode	0: No action 1: With-load rotation tuning 2: No-load rotation tuning 3: Shaft auto-tuning 1 4: Shaft auto-tuning 2 5: Synchronous motor static tuning
P02-00	Motor type	0: Asynchronous motor 1: Synchronous motor
P0-00	Control mode	0: Open-loop vector 1: Closed-loop vector 12/02: V/F 22/03: I/F

6.2.1.2 Motor auto-tuning flowchart

(1) Synchronous motor with-load auto-tuning (master tuning with car)

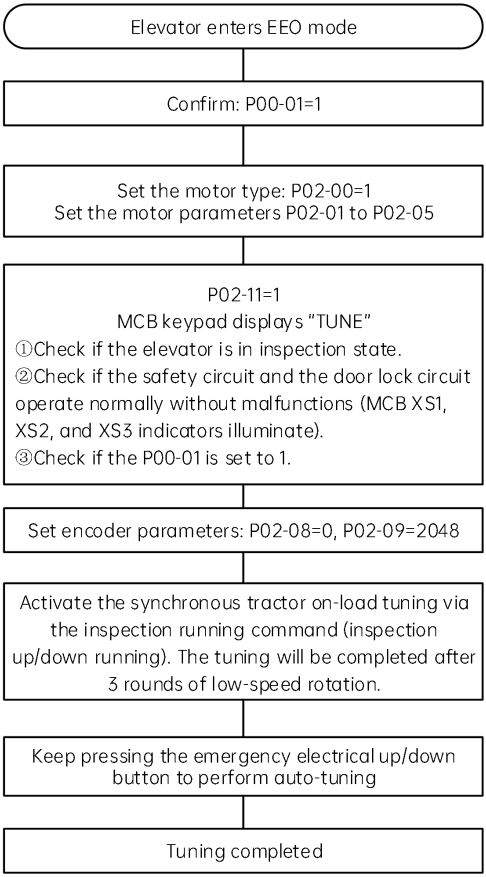


Fig. 6-1 Synchronous motor rotation auto-tuning

(2) Synchronous motor no-load auto-tuning (the motor shall be disconnected from the car for tuning)

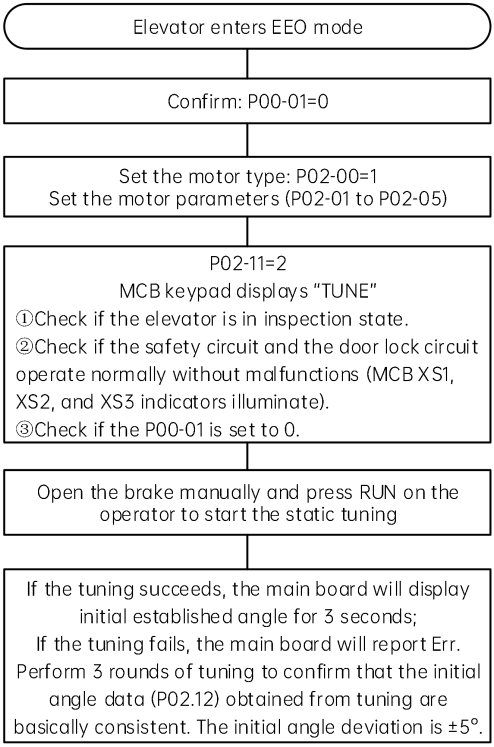


Fig. 6-2 Synchronous motor static auto-tuning

Caution

- ✧ During static auto-tuning, only synchronous motor sin/cos encoders and absolute encoders are supported, and the cabinet output power cable UVW sequence shall match the encoder AB and CD sequence for a successful parameter tuning. Otherwise, it is required to manually adjust the phase sequence of the two-phase motor in the three-phase UVW output and re-perform the parameter tuning. If no fault occurs during the normal inspection operation after the tuning, it indicates a success of tuning.
- ✧ During auto-tuning, the parameter P02-06 shall be set to 0. if the actual phase sequence of the encoder is 8, the parameter P02-23 Bit6 shall be set to 1, and the parameter P02-06 shall be set to 0.
- ✧ During static auto-tuning, the master machine tuning with the car is supported in case the brake is not released and that the motor remains motionless.

Instructions on synchronous motor auto-tuning:

(1) The synchronous motor tuning supports learning of the master's initial magnetic pole angle, the

encoder initial point angle, the motor wiring mode, and the D/Q axis inductance;

(2) Please perform tuning for multiple times (it is recommended to perform 3 times and above), and compare the synchronous motor encoder zero point angles (P02-12) from each tuning. The deviation shall be within ±5°.

(3) Any change of the encoder, encoder wiring, motor wiring, motor rated current, motor rated frequency, or motor rated speed shall be followed by a motor re-tuning.

(4) The parameter P02-12 value supports manual adjustment that takes effect immediately. When replacing the MCB, it is not necessary to perform a motor tuning. Input the P02-12 value of the previous MCB manually to directly operate the controller.

(5) When the tuning finishes, make sure that no fault occurs during the inspection up/down running of the elevator. Please check and confirm that the running direction (P0.07) and the pulse count direction (P02-06) are consistent with the actual running direction.

6.2.2 Inspection-speed trial run

Parameters related to the inspection-speed trial run:

Parameter	Parameter explanation	Description	Default value
P00-07	Elevator running direction selection	0: Same direction 1: Opposite direction	0
P03-05	Speed in EEO	0.100 to 0.300 m/s	0.250 m/s
P11-03	High position of current car position	0 to 65535	0

Inspection-speed trial running procedure:

(1) Confirm that the motor operates in the correct direction.

During a trial run after tuning, check if the actual motor running direction is consistent with the command direction. If not consistent, adjust the direction via the parameter P00-07.

(2) Confirm that the motor running current is normal.

During a trial run, the no-load motor running current shall be less than 1 A; the actual current in with-load constant-speed running does not exceed the motor rated current in general situations. After motor tuning for multiple times, if the encoder angle deviation remains small but the with-load constant-speed running current remains larger than the motor rated current, it is required to check the followings:

① check if the brake is open completely;

② check if the balance coefficient is normal;

③ check if the guide shoe of the car/counterweight is over-tight.

(3) Confirm that the car top inspection is enabled.

Make sure the car top inspection is enabled, and that the EEO is disabled when the car top inspection is enabled. The priority of car top inspection shall be higher than that of EEO.

(4) Confirm that the shaft is clear.

Make sure the shaft is clear, with no mechanical or construction obstacles in the shaft. Otherwise, there is a risk of car damage.

(5) Confirm that the slowdown switch and the limit switch of the terminal floor are enabled.

Make sure the slowdown switch and the limit switch of the terminal floor are enabled when the car is running towards the terminal floor. Pay close attention to safety during running. It is recommended to keep the running time and distance of each trial run in a proper range to prevent the car rushing through the terminal floor, leading to possible mechanical damages to the car.

6.3 Shaft auto-tuning

6.3.1 Shaft auto-tuning

6.3.1.1 Preparation for Shaft auto-tuning

(1) Confirm that all the shaft switches act properly.

Check the performance of the switch devices which include the final limit switch, the limit switch, the slowdown switch, and the leveling sensor.

(2) Confirm that the leveling sensors act in correct order.

In general situations, it is sufficient to install and employ one leveling sensor. In case multiple sensors are installed, it is required to check if the sensors act in the correct order when the elevator is passing the leveling plate. Take the order of three sensors for example:

① The order of action during upward inspection running: upper leveling sensor → door zone sensor → lower leveling sensor;

② The order of action during downward inspection running: lower leveling sensor → door zone sensor → upper leveling sensor.

(3) Confirm that CAN communication is normal.

When CAN communication between the MCB and the CTB is normal (no E51 fault is reported), CAN1 signal monitoring the MCB illuminates. In case of a CAN communication fault, please refer to the E51 fault diagnosis and removal in the section "Fault signal and countermeasures."

Parameters related to shaft auto-tuning

Parameter	Parameter explanation	Description	Default value	Remarks
P00-04	Rated speed	0.250 to 4.000 m/s	1.600 m/s	-
P11-06	Top elevator floor	1 to 48	9	The actual floor number

Parameter	Parameter explanation	Description	Default value	Remarks
				+ 1 - the lowest floor number
P11-07	Bottom elevator floor	1 to 48	1	-
P03-06	Shaft auto-tuning speed	0.100 to 0.630	0.500 m/s	-

Caution

When the rated speed P00-04 is changed, it is required to perform a new shaft auto-tuning to prevent malfunctions.

6.3.1.2 Conditions for a successful start of shaft auto-tuning

(1) The elevator is in EEO mode;

(2) The elevator runs to a position below the leveling position of the bottom floor and at least one leveling switch is disconnected from the leveling plate, with the signal of the input from the down level-1 slowdown switch to the MCB staying valid. (This condition is specific to two-floor elevators.)

(3) The Smile3000-V system is not in a fault alarm state. In case of a fault, please press the STOP RESET button to reset the fault.

6.3.1.3 Start and complete shaft auto-tuning

When the conditions listed in 6.3.1.2 is satisfied, start shaft auto-tuning using any of the following methods:

(1) Set the controller parameter P02-11 to 3, and then switch the EEO state (inspection state) to a normal state;

(2) Set the parameter P7 of the control board keypad to 1, and then switch the EEO state (inspection state) to a normal state.

When shaft auto-tuning is started, the elevator operates at an auto-tuning speed (P03-06) throughout the tuning process. The car automatically runs to the position of the bottom floor leveling plate first, and then automatically runs upwards to the position of the top floor leveling plate. The car will stop at this position, and the MCB will display the current floor number (the highest floor). if no controller fault is reported, it indicates a success of shaft auto-tuning.

If an E35 fault is reported, it indicates a failure of shaft auto-tuning. Please refer to the chapter "Fault removal" to clear the fault, and perform a new round of shaft auto-tuning afterwards.

6.3.1.4 Normal-speed trial run

After the shaft auto-tuning is completed successfully, the normal-speed operation may still fail due to the absence of door machine controller commissioning and full-load/overload commissioning. Please disable the door open function via parameters and allow overload running before the normal-speed trial run. Follow the procedure below:

Step 1: Disable the door open function, P17-05=1;

Step 2: Block the overload signal, P17-06=1;

Step 3: Set the inspection switch to the normal state, and check if the parameter D01-14 is set to the auto run mode;

Step 4: Perform the in-car keypad call test, with the parameter P17-00 set to the testing floor number, and start the normal-speed trial run;

Step 5: Complete the trial run, and set the parameters P17-00 to P17-07 to 0.


Caution

When the controller powers on after a power off, the parameters P17-00/01/02/05/06/07 will be reset to 0. if another trial run is needed, please reset these parameters.

6.3.2 Door machine commissioning

The contact between the door machine controller and the elevator system includes: CTB output of door open/close commands, and door machine controller feedback of door open/close limit signals. After the door machine installation and commissioning are completed, it is required to check if the wiring is correct and if the limit signal is consistent with the default setting. **Please follow the procedure below for door machine commissioning:**

(1) Confirm that P17-05 is set to 0, and that the "Door open prohibit" function is disabled.

(2) Confirm that the door machine controller wiring are correct and firmly secured, and the power supply voltage is appropriate.

(3) Door machine controller commissioning. Make sure that the input/output control of the controller is normal under the terminal control mode.

The method to confirm that the control of the door open/close output is normal:

① Short circuit Y1 of the CTB, and check if door 1 opens;

② Short circuit Y2 of the CTB, and check if door 1 closes.

If the door acts abnormally, please check the followings:

① Whether the wiring between the CTB and the door machine controller is correct;

② Whether the door machine controller door open/close command input terminal parameters are correct;

③ Whether the door machine commissioning fails or not. Perform another commissioning if the previous fails.

The method to confirm that the door machine controller door open/close limit signal feedback is normal:

Check if the door machine controller door open/close limit input signal feedback is normal via the X input terminal indicator on the CTB. The normal status of the door open/close limit signal include the followings:

Table 6-1 Judgement on door open/close limit

Signal / Status	Door	X3 indicator	X5 indicator
Door open/close signal is NO	Door open limit	Steady on	Off
	Door opening/closing	Off	Off
	Door close limit	Off	Steady on
Door open/close signal is NC	Door open limit	Off	Steady on
	Door opening/closing	Steady on	Steady on
	Door close limit	Steady on	Off

If the X1/X2 indicator status is not consistent with the door status or the indicators remain unchanged, please check the followings:

① Whether the wiring between the CTB and the door machine controller is correct;

② Whether the door open/close limit signal output terminal parameters of the door machine controller are correctly configured;

③ Whether the door machine commissioning fails or not. Perform another commissioning if the previous fails.

(4) After the door machine commissioning is completed, it is necessary to check if the P07-01 and P07-02 settings are consistent with the actual NO/NC status of the door open/close limit signal. If not consistent, it is required to set the NO/NC status of the input signal.

Troubleshooting of common malfunctions in door control:

(1) When the door is closed, it does not open upon an input of open command.

① Check if the "Door open limit" signal remains steadily valid;

② Check if D03-01 has door open output (segment 1 of LED 1). If the output exists, check: whether the wiring between the CTB and the door machine controller is correct; whether the door machine controller operates normally.

(2) When the door is in open limit state, it does not close upon an input of close command.

① Check if the light curtain signal remains steadily valid;

② Check if D03-01 has door close output (segment 2 of LED 1). If the output exists, check: whether the wiring between the CTB and the door machine controller is correct; whether the door machine controller operates normally.

(3) The door does not open in door zone and a fault E53 is reported. Refer to the measures indicated in the chapter "Fault removal."

6.4 Improvement of riding comfort

Mode of tuning	Type	Method
Inspection-speed tuning	Improve the riding comfort	Riding comfort improvement during elevator start/stop
		Riding comfort improvement based on running curve
	Improve the leveling accuracy	Description of leveling components
		Leveling accuracy improvement for all floors
		Leveling accuracy improvement for single floor

6.4.1 Improvement of riding comfort during operation

Comfort is a direct manifestation of the overall performance of an elevator to the outside world. Improper installation or selection of components in various parts of the elevator can lead to poor comfort, so the issue of comfort should be addressed comprehensively for the entire elevator. Common adjustments for comfort mainly focus on controller output control and elevator mechanical structure.

6.4.1.1 Performance improvements in system control

(1) Riding comfort improvements during elevator start/stop

Parameters:

Parameter	Name	Range	Default value
P04-00	Speed loop proportional gain 1	0 to 100	40
P04-01	Speed loop integral time 1	0.01 to 10.00 s	0.60 s
P04-03	Speed loop proportional gain 2	0 to 100	35
P04-04	Speed loop integral time 2	0.01 to 10.00 s	0.80 s

a) Adjustments for abnormal motor startup control

P04-00/01/03/04 are used to adjust the characteristics of the dynamic motor speed response:

Increasing the proportional gain or reducing the integral time can speed up the motor's dynamic response. However, if the proportional gain is too large or the integral time is too small, it can cause the motor to oscillate and jitter;

Reducing the proportional gain or increasing the integral time can slow down the motor's dynamic response. However, if the proportional gain is too small or the integral time is too long, it can cause the motor to lag in speed tracking, resulting in an E33 fault during elevator operation or unstable leveling during stops.

Generally, for most high-power masters, default factory parameters are usually appropriate and do not require adjustment. However, when controlling smaller power ones (e.g., ≤5.5 kW), oscillations may occur. The adjustment method is as follows:

First, decrease the proportional gain (range from 10 to 40 is suitable) to prevent system oscillation;

Then, decrease the integral time (range from 0.1 to 0.8 is suitable) to achieve a system with both fast response and minimal overshoot.

b) Riding comfort improvements during elevator startup

Riding comfort improvements during no-load-cell startup

Parameters:

Parameter	Name	Range	Default value	Description
P12-00	Pre-torque selection	0: Disabled 1: Pre-torque enabled 2: Automatic pre-torque compensation 3: Zero-servo and load cell both enabled	0	If the riding comfort varies under different loads due to poor load cell linearity when a load Cell is used, set this parameter to 3.
P12-01	Pre-torque offset	0.0% to 100.0%	50.0%	Load cell pre-torque adjustment parameters
P12-02	Drive gain	0.00 to 2.00	0.60	
P12-03	Brake gain	0.00 to 2.00	0.60	
P04-09	Zero-servo current coefficient	2.0% to 50.0%	15.0%	Zero-servo adjustment parameters (only when P12-00 is set to 2/3, P04-09/10/11 is valid)
P04-10	Zero-servo speed loop Kp	0.00 to 2.00	0.50	
P04-11	Zero-servo speed loop Ti	0.00 to 2.00	0.60	

Adjustment instructions:

When load cell pre-torque and automatic compensation are both enabled, the controller identifies the status of the brake and the drive according to the load cell signal, and automatically calculates the required torque compensation value. The controller quickly corrects torque compensation value based

on the slight rotation changes of encoder at the moment of startup. For the adjustment method, refer to the section of "Riding comfort improvements during no-load-cell startup."

c) Anti-rollback measures during elevator start/stop

Parameters:

Parameter	Name	Range	Default value
P05-17	Curve running delay time	0.000 to 2.000 s	0.600 s
P12-07	Stopping torque output delay	0.200 to 1.500 s	0.600 s

The system retains the zero-speed torque current output within the time set in P05-17 from the moment when the system sends the brake release command; this is to prevent rollback. If there is obvious rollback at elevator startup, increase P05-17 properly.

The system retains the zero-speed torque current output within the time set in P12-07 from the moment when the system sends the brake apply command; this is to prevent rollback. If there is obvious rollback at elevator startup, increase P12-07 properly.

d) Anti-current-noise measures during motor start/stop

During elevator start/stop, certain motors may generate noise when the current is applied before the brake is released or when the current is removed after the brake is applied. To reduce motor noise, increase P04-14 or P04-15 properly.

Parameter	Name	Range	Default value
P04-14	Torque acceleration time	1 to 500 ms	1 ms
P04-15	Torque deceleration time	1 to 3000 ms	350 ms

e) Riding comfort improvements during elevator startup with excessive mechanical static friction

Parameter	Name	Range	Default value
P05-00	Startup speed	0.000 to 0.05 m/s	0.000 m/s
P05-01	Startup holding time	0.000 to 5.000 s	0.000 s

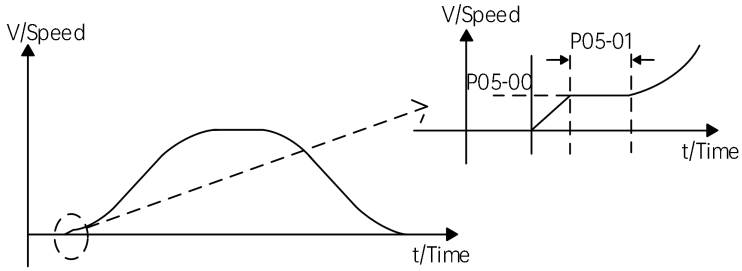


Fig. 6-3 Startup time sequence to minimize static friction influence

In typical home elevator structures, it is common for there to be significant friction between the guide shoe and the guide rail. At the moment of starting, there is a substantial static friction force, resulting in poor startup comfort (a sensation of being pulled). To overcome this friction and achieve better startup comfort, it is necessary to preset the above parameters so that the system starts at a certain speed from the beginning.

(2) Riding comfort improvement based on running curve adjustment

Parameter	Name	Range	Default
P05-02	Acceleration	0.200 to 1.500 m/s²	0.700 m/s²
P05-03	Acceleration start section	0.300 to 4.000 s	1.500 s
P05-04	Acceleration end section	0.300 to 4.000 s	1.500 s
P05-05	Deceleration	0.200 to 1.500 m/s²	0.700 m/s²
P05-06	Deceleration end section	0.300 to 4.000 s	1.500 s
P05-07	Deceleration start section	0.300 to 4.000 s	1.500 s

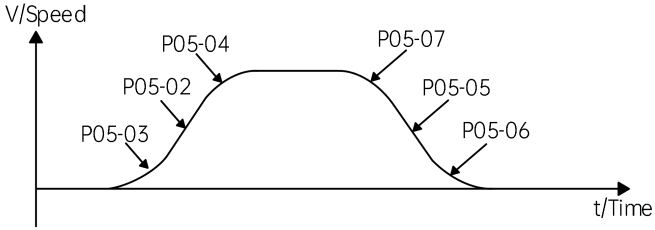


Fig. 6-4 Running curve

The parameter P05-02/03/04 is used to configure the speed curve of the elevator accelerating from the startup speed to the maximum speed. In case of poor riding comfort resulting from over-acceleration during startup, please reduce P05-02 and increase P05-03/04 to properly smoothen the curve. In case of an over-slow acceleration, increase P05-02 and reduce P05-03/04.

Similarly, adjust P05-05/06/07 values if the deceleration is too fast or slow during the deceleration process.

6.4.1.2 Mechanical factors for riding comfort

Mechanical structural factors that affect elevator comfort mainly include the installation of guide rails, guide shoes, steel ropes, and brakes, as well as the balance of the car, and the characteristics of the resonant system formed by the car, guide rails, and the traction machine. For asynchronous motors, wear or poor installation of the gearbox may also contribute to discomfort.

Number	Mechanical factor	Description
1	Guide rail	Factors in guide rail installation: verticality and surface flatness of the guide rail, smoothness of the guide rail joints, and parallelism between two guide rails (including guide rails on the counterweight side)
2	Guide shoe	Tightness of the guide shoes (including the guide shoe on the counterweight side) may affect the riding comfort. The guide shoes must not be too loose or tight.
3	Steel rope	The drive from the tractor to the car completely depends on the steel rope. Excessive elasticity of the steel ropes, coupled with irregular resistance during car operation, may cause a wave-like vibration of the car. Uneven stress distribution among multiple steel ropes can also lead to shaking during elevator operation.
4	Brake clearance	Installing the brake arm too tightly or not fully opening it can both affect the riding comfort during operation.
5	Car balance characteristics	An unbalanced car may result in uneven stress distribution on the guide shoes at car-rail connections, causing substantial friction between the guide rail and shoes, which reduces the riding comfort.
6	Gearbox	For asynchronous motors, wear or poor installation of gearbox may contribute to discomfort.
7	Resonant system	Resonance is an inherent characteristic of a physical system, influenced by factors such as the materials and mass of the system components. When resonance is confirmed as the cause of vibrations on site, measures such as adjusting the weight of the car or counterweight appropriately, and adding vibration-absorbing devices at connection points of various components (such as rubber pads under the traction machine), can be implemented to reduce resonance.

Chapter 7 Parameter Explanation

7.1 Explanation of functional parameters

To facilitate parameter setting, when using the operating panel, operations for all parameters can be categorized into 3 levels as follows:

- Level 1 menu: Group of the functional parameters
- Level 2 menu: Functional parameters
- Level 3 menu: Values of parameters

Explanation of parameter table headers:

Parameter	Name	Range	Default	Unit	Property
Serial number of parameter	Full name of parameter	Range of valid parameter values	Parameter value by default	Measuring unit of parameter values	Operational property of parameters (i.e., whether parameter adjustment is allowed or not, and the conditions for parameter adjustment)

"○": The value of the corresponding parameter can be modified in both stop and operation state of the Smile3000-V Home Elevator Integrated Control Cabinet;

"×": The value of the corresponding parameter can not be modified in the operation state of the Smile3000-V Home Elevator Integrated Control Cabinet;

"*": It indicates that the value of the corresponding parameter is a recorded value from actual testing, and does not allow modification.

Note:

The system has automatically checked and constrained the modification properties of each parameter to help users avoid errors.

7.2 Functional parameter grouping

Parameter	Name	Parameter	Name
P00	Basic parameters	P14	PC protection function parameters
P01	User parameters	P15	Communication parameters
P02	Motor parameters	P16	Time parameters setting
P03	Speed control parameters	P17	Test function parameters

Parameter	Name	Parameter	Name
P04	Vector control parameters	P18	Maintenance parameters setting
P05	Running control parameters	P19	Floor height
P06	MCB terminal parameters	P20	Leveling adjustment setting
P07	CTB terminal parameters	P21	Floor display setting
P08	Door machine parameters setting	D00	Configuration information
P09	Hall call parameters setting	D01	Running status
P10	Load cell parameters setting	D02	MCB status
P11	Basic elevator parameters	D03	CTB status
P12	Enhanced parameters	D04	Communication status
P13	Keypad setting parameters	E00 to E10	Fault recording parameters

7.2.1 Group P00: Basic parameters

Parameter	Name	Range	Default value	Unit	Property
P00-00	Control mode	0: Open-loop vector 1: Closed-loop vector 2: V/F 3: I/F	1	-	×

P00-00 sets the system control mode. Refer to the following table for instructions:

Value	Control mode	Function	Encoder
0	Open loop vector	Vector control, mainly applied for: Low-speed running during no-load commissioning, or fault judgement running during maintenance of asynchronous motors; Synchronous motor running under special operating conditions (for professionals only; not covered herein).	Not needed
1	Closed loop vector	Vector control, mainly applied for normal running under distance control.	Needed
2	V/F	Open-loop V/F control, applied for situations with partial detection devices. (The voltage/frequency ratio is generally at a fixed value; the control is simple; the low-frequency torque output characteristics are not satisfactory).	Not needed

Parameter	Name	Range	Default value	Unit	Property
3	I/F	-			

Parameter	Name	Range	Default value	Unit	Property
P00-01	Command source selection	0: Operating panel control 1: Distance control	1	-	×

P00-01 sets the method for the system to generate the running command and the running speed command. Refer to the following table for instructions:

Value	Running mode	Working mode		Purpose	Remarks
		(X) Input	(Y) Output		
0	Operating panel control	No judgement of X input point signal	No output (during motor commissioning, the relay controlling the RUN contactor provides normal output)	Applied for motor testing and no-load commissioning only	Control via the RUN and STOP buttons on the panel; set the running speed via the parameter P00-02 (running speed controlled by panel)
1	Distance control	Normal judgement of X input point signal	Normal output	Normal running control mode for motors	①During inspection running, the elevator operates at the speed set by the parameter P03-01 ②In normal operation, the system automatically calculates the speed and the running curve according to the distance between the current floor and the target floor, and directly stops the car on the target floor. The speed will be limited within the rated speed.

Parameter	Name	Range	Default value	Unit	Property
P00-02	Running speed under operating panel control	0.050 to P00-04	0.050	m/s	○
P00-03	Maximum running speed	0.250 to P00-04	1.600	m/s	×
P00-04	Rated elevator speed	0.250 to 4.000	1.600	m/s	×

Parameter	Name	Range	Default value	Unit	Property
P00-02 sets the running speed when controlled by the operating panel. P00-03 sets the maximum speed in actual running (the set value shall not exceed the rated elevator speed). P00-04 sets the rated speed for elevator operation. The value of this parameter does not allow random modification as it is determined by the traction machine and the elevator mechanical characteristics.					

Parameter	Name	Range	Default value	Unit	Property
P00-05	Rated elevator speed	300 to 9999	1000	kg	×
This parameter sets the rated elevator load, and serves for anti-nuisance function.					

Parameter	Name	Range	Default value	Unit	Property
P00-06	Maximum frequency	P02-04 to 99.00	50.00	Hz	×
This parameter sets the maximum frequency output enabled by the system, which shall exceed the rated motor frequency.					

Parameter	Name	Range	Default value	Unit	Property
P00-07	Elevator running direction	0, 1	0	-	×
This parameter adjusts the running direction of the elevator, and can be set to the following values: 0: Direction unchanged 1: Direction reversed This parameter allows for the reversing of the motor running direction (on condition that the motor wiring is not changed). During the first inspection running after a successful motor tuning, please confirm that the actual motor running direction is consistent with the inspection command direction. If not consistent, please adjust the actual running direction via P00-07 to align with the inspection command direction. When restoring the factory default settings, pay special attention to the setting of this parameter.					

Parameter	Name	Range	Default value	Unit	Property
P00-08	Carrier frequency	0.5 to 8.0	6.0	kHz	×

Parameter	Name	Range	Default value	Unit	Property

This parameter sets the carrier frequency of the controller.

The value of the carrier frequency is closely related to the noise level during motor running. When the value is set above 6 kHz, the motor is capable of quiet operation. Please select a low carrier frequency in the range allowed by the appropriate noise level as it minimizes the controller losses and reduces the intensity of RF interference.

When the carrier frequency is low, the higher-order harmonic components of the output current increase, motor losses increase, and the motor temperature rise increases.

When the carrier frequency is high, motor losses decrease, and the motor temperature rise decreases; however, the system losses increase, the system temperature rise increases, and interference increases.

The relation between carrier frequency and system performance is as follows:

Carrier frequency	Low to high
Motor noise volume	High to low
Wave form of output current	Poor to good
Motor temperature rise	High to low
Controller temperature rise	Low to high
Leak current	Small to large
Radiation to the surroundings	Low to high

7.2.2 Group P01: User parameters

Parameter	Name	Range	Default value	Unit	Property
P01-00	Level 1 password	0 to 65535	0	-	○

This parameter sets the user password. 0: No password.

The password setting function is used to prevent unauthorized personnel from accessing and modifying parameters. Set this parameter to any non-zero number to activate the password parameter-protection function. When entering the parameter setting state again, the correct password must be entered to view and modify parameters; otherwise, parameters cannot be accessed or modified. Set this parameter value to 00000 to clear the password setting and disable the password parameter-protection function.

Please remember your set password. If mistakenly set or forgotten, please contact the manufacturer to replace the control board.

Parameter	Name	Range	Default value	Unit	Property
P01-01	Parameter update	0: No action 1: Restore factory default settings 2: Clear memory fault data 3: Clear shaft data	0	-	×
This parameter resets some of the system parameters, and can be set to the following values: 0: No action. 1: Restore factory default settings. Please use this parameter with caution as it allows for the restoration of all parameters except for those in group F1. 2: Clear memory fault data. Set the value to 2 to clear the fault records. Parameters (E00-00 to E00-199) and parameters (group E01 to group E10) will be set to 0. 3: Clear shaft data. Set the value to 3 to clear the shaft floor pulse data. Shaft pulse of parameters (P05-10 to P05-15, group P11) will be set to 0; leveling adjustment parameters in group P20 will be set to 30030; a new round of shaft auto-tuning is required after the clearance.					

Parameter	Name	Range	Default value	Unit	Property
P01-02	User-defined parameter inspection	0: disabled; 1: enabled	0	-	×
This parameter allows for the inspection of parameters different with the default setting. Set the value to 1 to check the parameter whose current value differs from the default value.					

Parameter	Name	Range	Default value	Unit	Property
P01-03	Level 2 password	0 to 65535	0	-	×
P01-04	Level 3 password	0 to 65535	0	-	×

7.2.3 Group P02: Motor parameters

Parameter	Name	Range	Default value	Unit	Property
P02-00	Motor type	0, 1	1	-	×

Parameter	Name	Range	Default value	Unit	Property
This parameter allows for the selection of motor types, and can be set to the following values: 0: Asynchronous motor; 1: Synchronous motor.					

Parameter	Name	Range	Default value	Unit	Property
P02-01	Motor rated power	0.7 to 75.0	11.0	kW	×
P02-02	Motor rated voltage	0 to 600	380	V	×
P02-03	Motor rated current	0.00 to 655.00	21.80	A	×
P02-04	Motor rated frequency	0.00 to P00-06	50.00	Hz	×
P02-05	Motor rated speed	0 to 3000	1460	rpm	×
Please set the parameters according to the motor type and motor nameplate.					

Parameter	Name	Range	Default value	Unit	Property
P02-06	Synchronous motor wiring mode	0, 1	0	-	×
P02-06 sets the motor wiring mode. It indicates whether the drive board output phase sequence matches the motor UVW phase sequence. A value obtained under no-load conditions being even indicates the phase sequence is correct; if odd, it indicates a phase sequence error, and swapping any two output phases will resolve it.					

Parameter	Name	Range	Default value	Unit	Property
P02-07	Reserved				

Parameter	Name	Range	Default value	Unit	Property
P02-08	Encoder type selection	0: SIN/COS 1: UVW 2: ABZ 3: Reserved	0	-	×

Parameter	Name	Range	Default value	Unit	Property
Set P02-08 to an appropriate value based on the type of the encoder paired with the master. P02-00=1. When a synchronous motor is selected, please set this parameter correctly before commissioning; otherwise, the commissioning will fail. P02-00=0. When an asynchronous motor is selected, this parameter is automatically set to 2 (ABZ), and there is no need to modify it manually.					

Parameter	Name	Range	Default value	Unit	Property
P02-09	Encoder resolution	0 to 10000	2048	PPR	×
This parameter sets the number of pulses per round of the encoder (refer to the encoder nameplate).					

Parameter	Name	Range	Default value	Unit	Property
P02-10	Encoder disconnection detection time	0 to 10.0	2.1	s	×
This parameter sets the time for encoder disconnection detection. When the elevator begins non-zero speed operation, if there is no encoder signal input within the time interval set by P02-10, the elevator reports an encoder fault and stops running. If this parameter is set to less than 0.5 s, the detection function is disabled.					

Parameter	Name	Range	Default value	Unit	Property
P02-11	Tuning selection	0 to 3	0	-	×
This parameter selects the tuning mode, and can be set to the following values: 0: No action; 1: Dynamic auto-tuning; 2: Shaft auto-tuning; 3: Synchronous motor static auto-tuning.					

Parameter	Name	Range	Default value	Unit	Property
P02-12	Synchronous motor encoder installation angle	0.0 to 359.9	0	°	×

Parameter	Name	Range	Default value	Unit	Property
P02-12 sets the initial angle of the encoder. Perform multiple times of tuning and compare the obtained angle values. Make sure the deviation does not exceed ±5°.					

Parameter	Name	Range	Default value	Unit	Property
P02-13	Synchronous motor stator resistance	0.000 to 30.000	Defined by model	Ω	×
P02-14	Asynchronous motor rotor resistance	0.000 to 30.000	Defined by model	Ω	×
P02-15	Asynchronous motor leakage inductive reactance	0.00 to 300.00	Defined by model	mH	×
P02-16	Asynchronous motor mutual inductive reactance	0.1 to 3000.0	Defined by model	mH	×
P02-17	Asynchronous motor no-load current	0.01 to 300.00	Defined by model	A	×
Values of this parameter group are obtained after the asynchronous motor tuning, and automatically upgraded after the motor auto-tuning is successfully completed. If motor tuning is not available on site, enter manually the existing parameter values of the motor with the same nameplate and parameters. For the asynchronous motor, after each modification of motor rated power P02-01, this parameter group will be reset to default values.					

Parameter	Name	Range	Default value	Unit	Property
P02-18	Q-axis inductance (torque)	0.00 to 650.00	3.00	mH	×
P02-19	D-axis inductance (excitation)	0.00 to 650.00	3.00	mH	×
P02-20	Back EMF coefficient	0 to 65535	0	-	×
Parameters (P02-18 to P02-20) indicate the axis D/Q inductance and the back EMF coefficient (obtained through motor tuning) of the synchronous motor.					

7.2.4 Group P03: Speed control parameters

Parameter	Name	Range	Default value	Unit	Property
P03-00	Re-leveling speed	0.020 to 0.080	0.040	m/s	×
This parameter sets the speed of elevator re-leveling. This parameter is valid when the re-leveling function (set by P12-09) is enabled by the addition of the door pre-open module.					

Parameter	Name	Range	Default value	Unit	Property
P03-01	Inspection speed	0.100 to 0.630	0.250	m/s	×
P03-01 sets the running speed in elevator inspection.					

Parameter	Name	Range	Default value	Unit	Property
P03-02	Low-speed re-leveling speed	0.080 to P3.11	0.100	m/s	×
P03-02 sets the return speed towards the leveling position when the car stops at a non-leveling position in normal operation.					
Parameter	Name	Range	Default value	Unit	Property
P03-03	Emergency rescue speed at power failure	0.020 to P3.11	0.050	m/s	×
P03-03 sets the running speed for emergency rescue when a power failure occurs.					

Parameter	Name	Range	Default value	Unit	Property
P03-04	Emergency switchover speed	0.010 to 0.630	0.010	m/s	×
P03-04 sets the switching speed for the passing-speed-limited switchover from the shorting stator braking mode to the drive mode.					

7.2.5 Group P04: Vector control parameters

Parameter	Name	Range	Default value	Unit	Property
P04-00	Speed loop proportional gain 1	0 to 100	40	-	×

Parameter	Name	Range	Default value	Unit	Property
P04-01	Speed loop integral time 1	0.01 to 10.00	0.60	s	×
P04-02	Switchover frequency 1	0.00 to P04-05	2.00	Hz	×
P04-03	Speed loop proportional gain 2	0 to 100	35	-	×
P04-04	Speed loop integral time 2	0.01 to 10.00	0.80	s	×
P04-05	Switchover frequency 2	P2.02 to P00-06	5.00	Hz	×

Speed loop proportional gain 1 and speed loop integral time 1 are the PI adjustment parameters when the running frequency is less than the value of switchover frequency 1.

Speed loop proportional gain 2 and speed loop integral time 2 are the PI adjustment parameters when the running frequency is larger than the value of switchover frequency 2.

PI adjustment parameters between switchover frequency 1 and switchover frequency 2 are the weighted average of P2.00, P2.01, P2.03, and P2.04, as shown below:

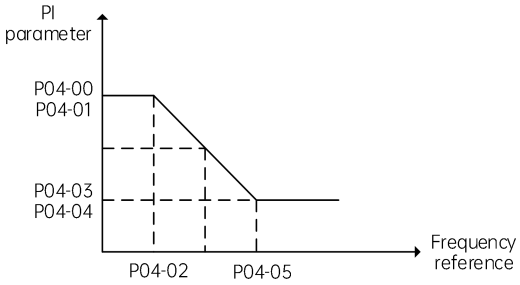


Fig. 7-1 Relation between running frequencies and PI parameters

By setting the proportional coefficient and integral time of the speed adjuster, it allows for the adjustment of the dynamic response characteristics of the vector control speed loop. Increasing the proportional gain and reducing the integral time can both accelerate the dynamic response of the speed loop. However, excessive proportional gain or too small integral time may cause oscillations in the system.

Recommended adjustment method:

If the factory default parameters do not meet requirements, fine-tune them based on the factory default values: first reduce the proportional gain to prevent system oscillation, then decrease the integral time to achieve faster response with minimal overshoot.

When both switchover frequency 1 and switchover frequency 2 are set to 0, only P04-03 and P04-04 are valid.

Parameter	Name	Range	Default value	Unit	Property
P04-06	Current loop proportional gain Kp	10 to 500	60	-	×
P04-07	Current loop integral gain Ki	10 to 500	30	-	×

Current loop proportional gain Kp and current loop integral gain Ki serve as the adjustment parameters of the torque axis current loop.

Note:

This parameter serves as the torque axis current adjuster in vector control. It is set to an optimal value obtained through motor tuning to match the motor characteristics, and does not need to be modified in general situations.

Parameter	Name	Range	Default value	Unit	Property
P04-08	Torque upper limit	0.0 to 200.0	200.0	%	×

This parameter sets the motor torque upper limit. When it is set to 100%, it indicates the rated output torque of the drive.

Parameter	Name	Range	Default value	Unit	Property
P04-09	Zero-servo current coefficient	2.0 to 50.0	15.0	%	×
P04-10	Zero-servo proportional gain	0.00 to 2.00	0.50	-	×
P04-11	Zero-servo integral gain	0.00 to 2.00	0.60	-	×

This parameter group serves to adjust the intensity of the automatic pre-torque compensation for no-load-cell startup function. Enable the no-load-cell startup function by setting P12-00 to 2 or 3.

In case of a violent startup, decrease the parameter values of this group; in case of a rollback at startup, increase the parameter values of this group.

Parameter	Name	Range	Default value	Unit	Property
P04-14	Torque acceleration time	1 to 500	1	ms	×
P04-15	Torque deceleration time	1 to 3000	350	ms	×

This parameter group sets the time for the acceleration/deceleration of the torque current.

When the car stops, different situations may occur due to different characteristics of the motors:

(1) Certain type of motors may produce an abrupt clunk when current is applied at startup. Increase

Parameter	Name	Range	Default value	Unit	Property
the time value of P04-14 to eliminate the sound; (2) Similarly, certain type of motors may produce an abrupt clunk when current is withdrawn at stop. Increase the value of P04-15 to eliminate the sound.					

Parameter	Name	Range	Default value	Unit	Property
P04-16	Startup acceleration time	0.000 to 1.500	0	s	×
P04-17	Speed filter coefficient	0.000 to 20.00	0.1	ms	×

Parameter	Name	Range	Default value	Unit	Property
P04-22	Reduction ratio	1 to 100	10	%	×
P04-23	Program control word 3	0 to 65535	0	-	×
P04-24	Number of motor poles	0 to 100	0	-	×
P04-25	IF current limiting	0 to 65535	0	-	×

Parameter	Name	Range	Default value	Unit	Property
P04-26	Upper limit of current threshold	0 to 65535	80	%	×
P04-27	Lower limit of current threshold	0 to 65535	50	%	×

Parameter	Name	Range	Default value	Unit	Property
P04-29	Encoder AB direction	0 to 65535	0	-	×
P04-30	Encoder CD direction	0 to 65535	0	-	×

Parameter	Name	Range	Default value	Unit	Property
P04-31	IF function selection	0, 1	0	-	×
0: DC positioning; 1: IF rotation.					

Parameter	Name	Range	Default value	Unit	Property
P04-32	IF DC setting angle	0 to 360	0	°	×

Parameter	Name	Range	Default value	Unit	Property
P04-33	Braking force detection time	1 to 10	5	s	×
P04-34	Braking force detection torque	0 to 150	110	%	×

7.2.6 Group P05: Running control parameters

Parameter	Name	Range	Default value	Unit	Property
P05-00	Startup speed	0.000 to 0.050	0.000	m/s	×
P05-01	Startup speed holding time	0.000 to 5.000	0.000	s	×

This parameter group sets the value and the holding time of the startup speed. Refer to Figure 7.2 "Speed curve".

Proper settings of this parameter group may reduce the abruptness similar to climbing steps, which may occur at startup due to the static friction between the guide rail and shoes.

Parameter	Name	Range	Default value	Unit	Property
P05-02	Acceleration	0.200 to 1.500	0.700	m/s^2	×
P05-03	Acceleration start section	0.300 to 4.000	1.500	s	×
P05-04	Acceleration end section	0.300 to 4.000	1.500	s	×

P05-02, P05-03, P05-04 serve to configure the running curve during acceleration. Refer to Figure 7.2 and Figure 7.3.

P05-02 sets the acceleration rate of the elevator speed curve (constant acceleration stage).

P05-03 sets the time for the acceleration increasing from 0 to the value of P05-02 in the speed curve (acceleration jerk stage). A higher value of this parameter may smoothen the speed curve (acceleration jerk stage).

P05-04 sets the time for the acceleration decreasing from the value of P05-02 to 0 in the speed curve (deceleration jerk stage). A higher value of this parameter may smoothen the speed curve (deceleration jerk stage).

Parameter	Name	Range	Default value	Unit	Property
P05-05	Deceleration	0.200 to 1.500	0.700	m/s^2	×
P05-06	Deceleration end section	0.300 to 4.000	1.500	s	×
P05-07	Deceleration start section	0.300 to 4.000	1.500	s	×

P05-05, P05-06, P05-07 serve to configure the running curve during deceleration. Refer to Figure 7.2 and Figure 7.3.

P05-05 sets the deceleration rate of the speed curve (constant deceleration stage).

P05-06 sets the time for the deceleration decreasing from the value of P3.05 to 0 in the speed curve. A higher value of this parameter may smoothen the deceleration end section of the speed curve.

P05-07 sets the time for the deceleration increasing from 0 to the value of P3.05 in the speed curve. A higher value of this parameter may smoothen the deceleration start section of the speed curve. Refer to Figure 7.2 for the setting of the complete running curve.

P05-02 and P05-05 indicate the value of acceleration and deceleration during the S curve linear acceleration process.

P05-03 (P05-07) sets the time of the acceleration (deceleration) changing from 0 to the value of P05-02 (P05-05) at the inflection point of the acceleration (deceleration) start section in the S curve. A higher value of this parameter may smoothen the curve at the inflection point.

P05-04 (P05-06) sets the time of the acceleration (deceleration) changing from the value of P05-02 (P05-05) to 0 at the inflection point of the acceleration (deceleration) start section in the S curve. A higher value of this parameter may smoothen the curve at the inflection point.

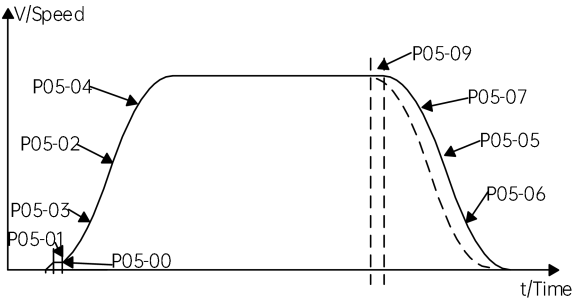


Fig. 7-2 Speed curve

Parameter	Name	Range	Default value	Unit	Property

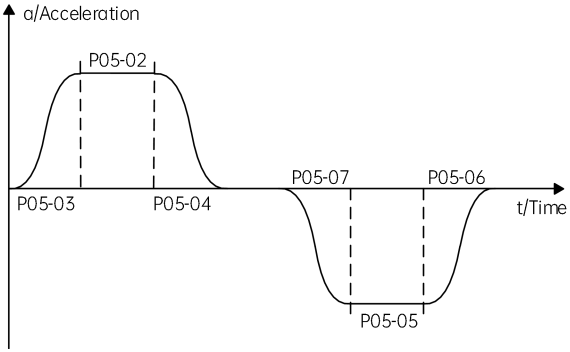


Fig. 7-3 Acceleration/Deceleration curve

Parameter	Name	Range	Default value	Unit	Property
P05-08	Special deceleration	0.200 to 1.500	0.900	m/s^2	×

P05-08 sets the deceleration rate in level 4 fault, inspection, shaft auto-tuning, re-leveling, and end floor correction.

In normal operation, this deceleration mode will not be activated. It will be activated only when the elevator position or the slowdown signal is abnormal, with the purpose of minimizing the risk of top-hitting and bottom-crashing accidents.

Parameter	Name	Range	Default value	Unit	Property
P05-09	Pre-deceleration distance	0 to 90.0	0.0	mm	×

P05-09 sets the pre-deceleration distance in distance control, as shown in Figure 7.2, to reduce the impact caused by encoder signal loss or leveling signal delay.

Parameter	Name	Range	Default value	Unit	Property
P05-10	Up level-1 slowdown switch position	0.00 to 300.00	0.00	m	×
P05-11	Down level-1 slowdown switch position	0.00 to 300.00	0.00	m	×
P05-12	Up level-2 slowdown switch	0.00 to 300.00	0.00	m	×

Parameter	Name	Range	Default value	Unit	Property
	position				
P05-13	Down level-2 slowdown switch position	0.00 to 300.00	0.00	m	×
P05-14	Up level-3 slowdown switch position	0.00 to 300.00	0.00	m	×
P05-15	Down level-3 slowdown switch position	0.00 to 300.00	0.00	m	×

Parameters (P05-10 to P05-15) indicate the distance from each slowdown switch to the bottom floor leveling position, and can be automatically obtained through shaft auto-tuning.

For low-speed elevators, there may be only one pair of slowdown switches in general; for high-speed elevators, there may be two or three pairs. The Smile3000-V Home Elevator Integrated Control Cabinet supports up to 3 pairs of slowdown switches. They can be installed in the order of level 1, level 2, and level 3 from the two ends to the middle of the shaft. That means level-1 slowdown switch shall be installed close to the end floor.

This elevator system automatically monitors the running speed at the moment of the car reaching the position of the slowdown switch. If any speed or position abnormality is detected, this system will enforce a deceleration at a speed set by P05-08 to prevent top-hitting and bottom-crashing accidents.

Parameter	Name	Range	Default value	Unit	Property
P05-16	Zero-speed current output time at start	0.200 to 1.000	0.200	s	×
P05-17	Curve running delay time	0.000 to 2.000	0.600	s	×
P05-18	Holding time after curve ends	0.000 to 1.000	0.300	s	×

Parameters (P05-16 to P05-18) set the values of the zero-speed current output holding time, the brake delay time, etc.

P05-16 sets the value of the time from the RUN contactor output to the brake contactor output. During this period, the controller excites the motor, and simultaneously outputs a zero-speed current with a relatively large starting torque.

P05-17 sets the value of the time during which the system retains the zero-speed torque current output for anti-rollback purpose. The start of the time is set at the moment of brake release command output.

P05-18 sets the time of the system retaining the zero-speed output after the running curve ends.

The time sequence is shown as follows:

Parameter	Name	Range	Default value	Unit	Property

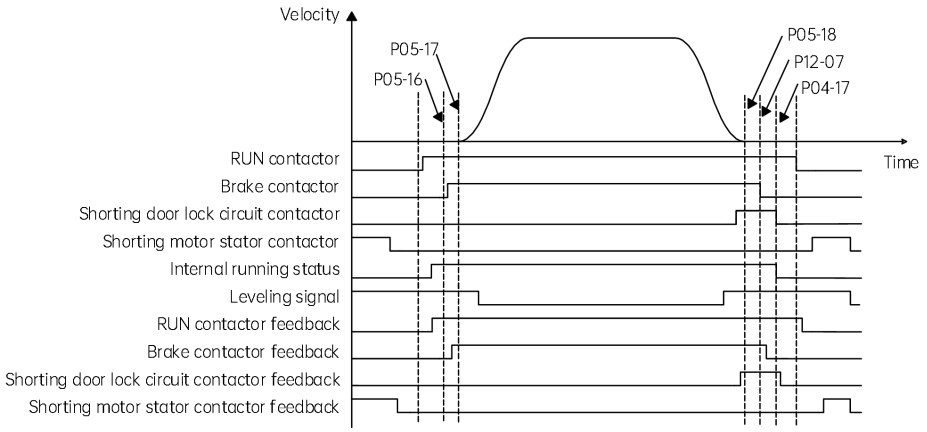


Fig. 7-4 Running time sequence

Caution

The elevator system retains the zero-speed torque current output for a time span which is set by P12-07 and starts at the moment of brake release command output. The purpose is to prevent car rollback.

Parameter	Name	Range	Default value	Unit	Property
P05-19	Acceleration rate during emergency rescue	0.300 to 1.300	0.300	m/s^2	×
P05-19 sets the acceleration rate during emergency rescue running.					

Parameter	Name	Range	Default value	Unit	Property
P05-20	Delay time for slowdown	0.00 to 10.00	0	s	×
P05-20 sets the value of the delay time for the car to postpone its deceleration to 0.1m/s when hitting a slowdown switch during the inspection, re-leveling, end floor correction, or shaft auto-tuning process.					

Parameter	Name	Range	Default value	Unit	Property
P05-22	EEO speed	0.100 to 0.300	0.250	m/s	×
P05-22 sets the speed value in EEO mode.					

7.2.7 Group P06: MCB terminal parameters

Parameter	Name	Range	Default value	Unit	Property
P06-01	X1 function selection	0 to 199	3	-	×
P06-02	X2 function selection		107	-	×
P06-03	X3 function selection		132	-	×
...			...		
P06-15	X15 function selection		00	-	×
P06-16	X16 function selection		00	-	×
Parameters (P06-01 to P06-16) set the values of the digital input (X1 to X16). Please select the input value according to the function of the input signal. The Smile3000-V Home Elevator Integrated Control Cabinet employs 16 low-voltage DI (X1 to X16), 3 high-voltage DI (XS1 to XS3), and 1 AI (Ai/M). All the low-voltage input points share the same COM terminal, and accept DC 24 V current. When proper current is applied, the corresponding input indicator illuminates. The following parameters and their values in this section are used to configure the functions of the DI terminals. In case any function can not be selected, check whether this function is selected by another terminal or whether the function is currently enabled.					

Parameter	Name	Range	Default value	Unit	Property
P06-25	XS1 function selection	0 to 7	4	-	×
P06-26	XS2 function selection		5	-	×
P06-27	XS3 function selection		6	-	×
Parameters (P06-25 to P06-27) set the values of the high-voltage detection input terminals (XS1 to XS3). The values available include: 0: No action 4: Safety circuit signal					

Parameter	Name	Range	Default value	Unit	Property
5: Door lock circuit signal 6: Door lock circuit signal 2 7: Shorting door lock circuit					

Parameter	Name	Range	Default value	Unit	Property
P06-35	Y1 function selection	0 to 31	1	-	×
P06-36	Y2 function selection		2	-	×
P06-37	Y3 function selection		0	-	×
P06-38	Y4 function selection		0	-	×
P06-39	Y5 function selection		0	-	×
P06-40	Y6 function selection		0	-	×
P06-41	Y7 function selection		0	-	×

Parameters in this table set the values of the output terminals (Y1 to Y6)of the output relay .

00: No action, with the output terminal not in use

01: RUN contactor output

02: Brake contactor output

03: Shorting door lock circuit contactor output

The system relay outputs the signal for the control contactor engagement and release.

04: Fire emergency floor arrival signal

In a fire emergency state, the system sends a feedback signal when the car arrives at the fire emergency floor and the door opens to facilitate fire control.

05: Door machine 1 door open signal output

06: Door machine 1 door close signal output

07: Door machine 2 door open signal output

08: Door machine 2 door close signal output

The terminal parameter is set to the above values for the door open/close control by the door machine 1 and 2.

09: Normal output of brake contactor and RUN contactor

When the brake contactor and the RUN contactor operate normally (not in the E36/E37 fault state), the system sends a feedback signal for use in monitoring.

Parameter	Name	Range	Default value	Unit	Property
10: Fault state output The system provides output in the level 3/4/5 fault state. 11: Running state output The integrated controller provides output in the running state. 12: Synchronous motor auto-lock output When a split-type shorting motor stator contactor is applied, the synchronous motor employs the terminal (with its parameter set to this value) to control the engagement and release of the shorting motor stator contactor. 13: Emergency running auto-switchover during power failure When the mains power supply is cut off and the controller detects a mains voltage decrease below a certain value, an emergency auto-switchover signal output is activated. The elevator performs emergency rescue running with battery power supply. Note: With the external power supply being cut off, the relay needs to be powered by the remaining power of the integrated cabinet, meaning that this function can be enabled by Y6/M6 only. 14: Integrated controller normal state output In normal operation, the integrated controller allows the output of corresponding terminals. 15: Emergency buzzer output The integrated controller outputs signal to activate the buzzer for alert sounds during emergency rescue running. 16: Higher-voltage brake release output Set the parameter to this value for the use by the brake that requires holding in lower voltage. This output lasts for 4 seconds to release the brake in high voltage. The brake release status is held in lower voltage. 17: Elevator up running signal The system outputs signal for elevator upward running. 18: Lighting/Fan operation output This output serves for the control of the lighting and fan. It is the same with the CTB energy-saving control output. 19: Medical disinfection output This output serves for the control of disinfection devices such as the ultraviolet lamp. For example, the disinfection signal output is activated when the elevator suspends service and turns off the lighting and fan. 20: Output of car stop in non-door zone When the elevator stops in non-door zone, the system uses the terminal (with its parameter set to this					

Parameter	Name	Range	Default value	Unit	Property
value) for output. 21: Electromagnetic lock output This output serves to control the engagement and release of the electromagnetic lock during manual door open. 22: Non-service state alert This output is activated when the elevator is in a non-service state and unable to respond to hall calls. 23: Rescue running end output This output serves to inform the ARD of the completion of rescue, and is activated after the rescue running finishes.					

MCB input/output point definition:

Name	Definition	Value	Name	Definition	Value
X1	Door zone signal	P06.01=3	XS1	Safety circuit	P06-25=4
X2	Brake contactor feedback 1	P06.02=107	XS2	Door lock circuit 1	P06-26=5
X3	Brake contactor feedback 2	P06.03=132	XS3	Door lock circuit 2	P06-27=6
X4	STO feedback signal	P06.04=06	Y1	RUN contactor output	P06-35=1
X5	Inspection state input (NC)	P06.5=108	Y2	Brake contactor output	P06-36=2
X6	Up running input in inspection	P06.06=9	Y5	Electromagnetic lock output (during manual door open)	P06.39=21
X7	Down running input in inspection	P06.07=10	Y7	Power-on contactor output (modification prohibited)	-
X8	ULS up slowdown signal	P06.08=116	-	-	-
X9	DLS down slowdown signal	P06.09=117	-	-	-

7.2.8 Group P07: CTB terminal parameters

Parameter	Name	Range	Default value	Unit	Property
P07-01	CTB input X1	0 to 199	3	-	×
P07-02	CTB input X2		5	-	×
P07-03	CTB input X3		0	-	×
P07-04	CTB input X4		0	-	×
P07-05	CTB input X5		101	-	×
P07-06	CTB input X6		0	-	×
P07-07	CTB input X7		0	-	×
P07-08	CTB input X8		0	-	×
P07-09	CTB input X9		0	-	×
P07-10	CTB input X10		0	-	×
P07-11	CTB input X11		0	-	×
P07-12	CTB input X12		113	-	×
P07-13	CTB input X13		14	-	×
P07-14	CTB input X14		15	-	×
P07-15	CTB input X15		0	-	×
P07-16	CTB input X16		0	-	×
P07-17 to P07-24	Reserved		0	-	×

This parameter group serves for the settings of the input X terminals of the expansion cards. The Smile3000-V system supports up to two expansion cards to increase the input points in the control cabinet and car.

Definitions of the NO settings (0 to 99 for NO; for NC, an addition of 100 on NO) for functions are shown below:

0: Reserved;

1: Light curtain 1;

2: Light curtain 2;

3: Door open limit 1;

Parameter	Name	Range	Default value	Unit	Property
4: Door open limit 2; 5: Door close limit 1; 6: Door close limit 2; 7: Full-load input; 8: Over-load input; 9: Light-load input; 10: Up leveling; 11: Down leveling; 12: Door machine over-heat; 13: Inspection; 14: Upward running in inspection; 15: Downward running in inspection; 20: Up slowdown input; 21: Down slowdown input.					

Parameter	Name	Range	Default value	Unit	Property
P07-25	CTB output Y1 (B1)	0: Reserved 1: Door 1 open 2: Door 1 close 3: Door 1 forced close 4: Door 2 open 5: Door 2 close 6: Door 2 forced close 7: Up arrival gong 8: Down arrival gong 11: Sound and light alarm 14: Forced output	1	-	×
P07-26	CTB output Y2 (B2)		2	-	×
P07-27	CTB output Y3 (B3)		3	-	×
P07-28	CTB output Y4 (C1)		4	-	×
P07-29	CTB output Y5 (C2)		5	-	×
P07-30	CTB output Y6 (C3)		6	-	×
P07-31	CTB output Y7 (D1)		7	-	×
P07-32	CTB output Y8 (D2)		8	-	×
P07-33	CTB output Y9 (E1)		11	-	×
P07-34	CTB output Y10		0	-	×
P07-35	CTB output Y11		0	-	×
P07-36	CTB output Y12		0	-	×

CTB input/output point definition (standard home elevator):

Name	Definition	Value	Name	Definition	Value
X1	Front door open limit	P07.01=3	Y1	Door 1 open	P07.25=01
X2	Front door close limit	P07.02=5	Y2	Door 1 close	P07.26=02
X5	Light curtain input	P07.05=101	Y3	Door 1 forced close	P07.27=03
X12	Inspection input	P07.12=113	Y7	Up arrival gong	P07.31=07
X13	Inspection upward running input	P07.13=14	Y8	Down arrival gong	P07.32=08
X14	Inspection downward running input	P07.14=15	Y9	Sound and light alarm	P07.33=09
-	-	-	Y10	Lighting	P07.34=10
-	-	-	Y11	Fan	P07.35=11

CTB input/output point definition (platform elevator):

Name	Definition	Value	Name	Definition	Value
X1	Light curtain input	P07.01=101	B1	-	-
X2	Up slowdown input	P07.02=120	B2	-	-
X3	Down slowdown input	P07.03=121	B3	-	-

7.2.9 Group P08: Door machine parameters setting

Parameter	Name	Range	Default value	Unit	Property
P08-00	The number of door machines	1 to 2	1	-	×
P08-00 sets the number of the door machines. The user may set the value of this parameter according to the actual number of the door machines used. Set the value to 1 if the car opens on one side; set the value to 2 if the car opens on two opposite sides.					

Parameter	Name	Range	Default value	Unit	Property
P08-01	Door machine 1 serve floor 1	0 to 65535	65535	-	○
P08-02	Door machine 1 serve floor 2	0 to 65535	65535	-	○

Parameter	Name	Range	Default value	Unit	Property
P08-03	Door machine 1 serve floor 3	0 to 65535	65535	-	○
P08-04	Door machine 2 serve floor 1	0 to 65535	65535	-	○
P08-05	Door machine 2 serve floor 2	0 to 65535	65535	-	○
P08-06	Door machine 2 serve floor 3	0 to 65535	65535	-	○

This parameter group sets the service floor for door 1 and 2.

Service floor 1 corresponds to the floor from 1 to 16;

Service floor 1 corresponds to the floor from 17 to 32;

Service floor 1 corresponds to the floor from 33 to 48.

This parameter group enables the respective service floor settings for door machine 1 and 2 in door open/close control. The method is the same with P6.05 (setting of the service floor).

Parameter	Name	Range	Default value	Unit	Property
P08-07	Door open protection time	5 to 99	10	s	○
P08-08	Door close protection time	5 to 99	15	s	○

P08-07 sets the door open protection time.

When the system sends a door open command and receives no door open limit signal after a certain time span, it re-performs door open and close, and that time span is referred to as the door open protection time and set by P08-07. When the number of door open/close reaches the value set by P08-09, an E48 fault is reported.

P08-08 sets the door close protection time.

When the system sends a door close command and receives no door close limit signal after a certain time span, it re-performs door open and close, and that time span is referred to as the door close protection time and set by P08-08. When the number of door open/close reaches the value set by P08-09, an E49 fault is reported.

Parameter	Name	Range	Default value	Unit	Property
P08-09	Number of door open/close	0 to 20	0	-	○
P08-10	Door mode for standby elevator	0 to 2	0	-	○

P08-09 sets the maximum number of repeated door open/close when abnormality occurs in door open/close.

Parameter	Name	Range	Default value	Unit	Property
P08-10 sets the door state when the elevator stops and awaits for further operation commands. This parameter can be set to the following values: 0: Closed at parking floor; 1: Open for calls at parking floor; 2: Open for calls at each floor.					

Parameter	Name	Range	Default value	Unit	Property
P08-11	Door open holding time for hall calls	1 to 1000	5	s	○
P08-12	Door open holding time for car calls	1 to 1000	3	s	○
P08-13	Door open holding time at main floor	1 to 1000	10	s	○
P08-14	Extended door open holding time	10 to 1000	30	s	○
P08-11 sets the door open holding time for hall calls. The door will close immediately upon a door close command; P08-12 sets the door open holding time for car calls. The door will close immediately upon a door close command; P08-13 sets the door open holding time when the car arrives at the main parking floor. The door will close immediately upon a door close command; P08-14 sets the extended door open holding time after the input of a door open delay signal. The door will close immediately upon a door close command;					

Parameter	Name	Range	Default value	Unit	Property
P08-15	Special door open holding time	10 to 1000	30	s	○
P08-16	Manual door open holding time	1 to 60	5	s	○
P08-17	Forced door close time	5 to 180	120	s	○
P08-15 sets the door open holding time for calls from the disability operating panel; P08-16 sets the extended door open limit holding time for manual door. It is valid for manual door function; P08-17 sets the waiting time for forced door close. When forced door close function is enabled, if no door close command is received after the forced door close time due to reasons caused by the light curtain or others, the system will enter forced door close mode and sends forced door close signal.					

Parameter	Name	Range	Default value	Unit	Property
P08-18	Door lock waiting time during manual door	0 to 60	0	s	○
This parameter sets the waiting time interval for door lock to re-perform door lock open/close after it opens and closes in case of manual door.					

Parameter	Name	Range	Default value	Unit	Property
P08-19	Delay time for arrival gong output	0 to 1000	0	ms	○
When this parameter is set to a value exceeding 10, the arrival gong output will be activated after a time span set by P08-19 when the in-car display switches to the target floor; when this parameter is set to a value less than 10, the arrival gong will be activated upon car stop.					

Parameter	Name	Range	Default value	Unit	Property
P08-20	Through-type doors selective control	0 to 3	0	-	×
P08-00 sets the number of the door machines. The user may set the value of this parameter according to the actual number of the door machines used. Set the value to 1 if the car opens on one side; set the value to 2 if the car opens on two opposite sides. P08-20 is used to configure the through-type doors control, and can be set to the following values: 0: Simultaneous control; 1: Independent control for hall calls, simultaneous control for car calls; 2: Independent control for hall calls, manual control for car calls; 3: Independent control for both hall calls and car calls.					

7.2.10 Group P09: Hall call parameters setting

Parameter	Name	Range	Default value	Unit	Property
P09-00	HCB-JP1 input selection	0 to 63	1	-	×
P09-01	HCB-JP2 input selection		2	-	×
P09-00 and P09-0 are used to configure the input parameters of the pin 2 and 3 for the HOP option JP1 and JP2. The setting is valid for the HOP of all floors. 0: No action					

Parameter	Name	Range	Default value	Unit	Property
1: Elevator lock signal 2: Fire emergency signal 3: Current floor signal 4: VIP signal 5: Security signal 6: Door close button input 7: Second fire emergency floor input					

Parameter	Name	Range	Default value	Unit	Property
P09-02	HCB-JP1 output selection	0 to 15	1	-	×
P09-03	HCB-JP2 output selection		2	-	×
P09-02 and P09-03 are used to configure the output parameters of the pin 1 and 4 for the HOP option JP1 and JP2. The setting is valid for the HOP of all floors. 0: No action 1: Up arrival indicator 2: Down arrival indicator 3: Fault signal 4: Non-door zone car stop 5: Non-service state output 6: Door close button output					

Parameter	Name	Range	Default value	Unit	Property
P09-04	Start address of hall call auxiliary command	0 to 40	0	-	×
This parameter sets the start address of hall calls for the rear door in through-type elevators. The address of rear door hall calls = the address of current floor front door hall calls + P09-04					

7.2.11 Group P10: Load cell parameters setting

Parameter	Name	Range	Default value	Unit	Property
P10-00	Load cell input selection	0 to 3	1	-	×

Parameter	Name	Range	Default value	Unit	Property
This parameter sets the signal channel for the elevator load cell. Before using the load cell, please correctly set this parameter to the following values: 0: No action; 1: In-car digital sampling; 2: In-car analog sampling; 3: MCB analog sampling.					

Parameter	Name	Range	Default value	Unit	Property
P10-01	Load cell auto-tuning setting	0 to 100	0	%	×
Load auto-tuning proceeds in three steps: Make sure P12-00 is set to 0 and P10-00 is set to 2 or 3, allowing the system to enable auto-tuning; Stop the no-load car on a random floor, set P10-01 to 0, and press ENTER DATA button for input; Place a N% load in the car, set P10-01 to N, and press ENTER DATA button for confirmation. For example, when placing 500 kg load in a car with a rated load of 1000 kg, P10-01 shall be set to 50. The no-load and full-load data obtained through auto-tuning will be recorded in P10-03 and P10-04. The user can also manually input the data according to the on-site situation.					

Parameter	Name	Range	Default value	Unit	Property
P10-02	Current car load	0 to 255	0	-	*
P10-02 is a read-only parameter indicating the in-car load. The Smile3000-V series adopts analog sampling of load cell for over-load and full-load judgement as well as the torque current calculation of load cell pre-torque compensation.					

Parameter	Name	Range	Default value	Unit	Property
P10-03	Car no-load setting	0 to 255	0	-	×
P10-04	Car full-load setting	0 to 255	0	-	×
P10-03 and P10-04 define the standards of the no-load and full-load state of the car. The values are obtained via analog AD sampling.					

Parameter	Name	Range	Default value	Unit	Property
P10-05	Anti-nuisance selection	0 to 65535	0	-	○

This parameter defines the standards for anti-nuisance judgement, and can be set to the following values:

Bit0: Judgement by load cell. The number of car calls is compared with the load cell data to determine whether a nuisance exists. Load cell is required for this function.

Bit1: Judgement by light curtain. If the light curtain does not react after each of three consecutive times of car arrival and stop, it indicates the existence of a nuisance.

Bit2: Judgement by light-load signal. If the number of car calls exceeds a certain value while the light-load signal is valid, it indicates the existence of a nuisance.

In case a nuisance state is confirmed, all car calls will be canceled, and new registration of car calls is required.

7.2.12 Group P11: Basic elevator parameters

Parameter	Name	Range	Default value	Unit	Property
P11-00	Leveling adjustment	0 to 60	30	mm	×

P11-00 is used to adjust the leveling accuracy when the car stops.

When the car stops, if over-leveling exists on all service floors, reduce properly the value of this parameter; if under-leveling exists on all service floors, increase properly the value of this parameter. Change of this parameter is applied to all service floors. For the leveling adjustment of a single floor, it is recommended to adjust the position of leveling plate, or refer to the leveling adjustment methods of group P20. The Smile3000-V Home Elevator Integrated Control Cabinet employs avant-garde distance control algorithms and multiple measures to ensure the accuracy and stability in direct car parking. Users are not required to perform adjustment in general situations.

Parameter	Name	Range	Default value	Unit	Property
P11-01	Current floor	P11-07 to P11-06	1	-	×

P11-01 is used to display the current floor number of the car.

The value of this parameter is automatically modified during car running, and automatically corrected upon door open limit at leveling position after the up/down slowdown switch actions. This parameter allows manual modification when leveling on non-top and non-bottom floors; however, the value shall be consistent with the actual number of the current floor.

Parameter	Name	Range	Default value	Unit	Property
P11-02	High bits of current car position	0 to 65535	1	Pulse number	○
P11-03	Low bits of current car position	0 to 65535	34464	Pulse number	○

P11-02 and P11-03 refer to the absolute pulse number of the current car position relative to the leveling position of the bottom floor.

The Smile3000-V cabinet records the shaft position data in the form of pulse number. Each position is represented by a 32-bit binary number, of which the high 16 bits indicate the pulse high bits of the corresponding floor height and the low 16 bits indicate the pulse low bits of the corresponding floor height.

Parameter	Name	Range	Default value	Unit	Property
P11-04	Leveling plate length 1	0 to 65535	0	Pulse number	×
P11-05	Leveling plate length 2	0 to 65535	0	Pulse number	×

The Leveling plate length 1 of P11-04 records the pulse number corresponding to the effective length of the leveling plate.

The Leveling plate length 2 of P11-05 records the distance (and its corresponding pulse number) between the upper leveling sensor and the upper end of the leveling plate, as well as the the distance (and its corresponding pulse number) between the lower leveling sensor and the lower end of the leveling plate.

The values of the two parameters are automatically recorded during shaft auto-tuning.

Parameter	Name	Range	Default value	Unit	Property
P11-06	Top floor	P11-07 to 40	9	-	×
P11-07	Bottom floor	1 to P11-06	1	-	×

These two parameters set the top and bottom floor of the building based on the actual number of the leveling plates installed.

Parameter	Name	Range	Default value	Unit	Property
P11-08	Parking floor	P11-07 to P11-06	1	-	×
When the elevator remains idle for a time span exceeding the value set by P16-00, the car will return to the parking floor set by P11-08.					

Parameter	Name	Range	Default value	Unit	Property
P11-09	Fire emergency floor	PP11-07 to P11-06	1	-	×
When the elevator enters the state of fire emergency return, the car will return to the fire emergency floor set by this parameter.					

Parameter	Name	Range	Default value	Unit	Property
P11-10	Fire emergency floor 2	0 to P11-06	0	-	×
This parameter sets the second fire emergency floor. The switchover signal of fire emergency floors is input through the main board. When the signal is activated, the car will return to the floor set by P11-10.					

Parameter	Name	Range	Default value	Unit	Property
P11-11	Parking floor for elevator lockout	P11-07 to P11-06	1	-	×
When the elevator enters the lockout state, the car will return to the lockout floor. P11-11 sets the lockout floor. During operation, when the lockout switch is activated or the set lockout time starts, the system will cancel all the registered hall calls, complete all the registered car calls, return to the lockout floor, suspend automatic elevator service, and turn off the in-car lighting and fan. The hall call display will be turned off once the door closes.					

Parameter	Name	Range	Default value	Unit	Property
P11-12	VIP floor	0 to P11-06	0	-	×

Parameter	Name	Range	Default value	Unit	Property
P11-13	Rescue parking floor	0 to P11-06	0	s	×
When Bit2 of P11-54 is set to 1, the rescue parking floor set by P11-13 will be the floor for parking.					

Parameter	Name	Range	Default value	Unit	Property
P11-14	Security floor	0 to P11-06	0	-	×

P11-14 sets the security floor:

When the security input is enabled or the night security floor function is activated, the elevator will stop on the security floor during each running, open and close the door once, and move to the target floor afterwards.

There are two ways to enter the security floor:

Set P09-00 or P09-01 to 5 (security signal); when the signal is valid, the system enters the security state;

Set Bit5 of P12-09 to 1 to activate the night security floor function; the system will stay in the security state from 22:00 to 6:00 in the next day.

Parameter	Name	Range	Default value	Unit	Property
P11-15	Service floor 1	0 to 65535 (floor 1 to 16)	65535	-	×
P11-16	Service floor 2	0 to 65535 (floor 17 to 32)	65535	-	×
P11-17	Service floor 3	0 to 65535 (floor 33 to 40)	65535	-	×

This parameter group sets the service floors in the range of floor 1 to 40.

The service floor 1 of P11-15 serves the range of floor 1 to 16; the service floor 2 of P11-16 serves the range of floor 17 to 32; the service floor 3 of P11-17 serves the range of floor 33 to 40.

Take P11-15 as an example. The settings of this parameter group is shown below:

The value of this parameter comprises 16 binary bits corresponding respectively to the 16 floors. If the bit is set to 1, it indicates that the corresponding floor will answer the call for this floor; if the bit is set to 0, it indicates that the corresponding floor will not answer the call for this floor.

Example:

For a 16-storey building elevator, if it is required that floor 3, 5, and 7 do not answer the call, it is necessary to set Bit2, Bit4, and Bit6 to 0.

Floor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Bit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Binary	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1

Parameter	Name								Range			Default value			Unit	Property
Decimal	1	2	0	8	0	32	0	128	256	512	1024	2048	4096	8192	16384	32768

Other bits shall be set to 1.

1+2+8+32+128+256+512+1024+2048+4096+8192+16384+32768=65451

P6.05 shall be set to 65451.

The same method applies to the setting of P6.06 and P6.35.

Parameter	Name	Range	Default value	Unit	Property
P11-18	Number of elevators for group control	1 to 8	1	-	×
P11-19	Elevator serial number	1 to 8	1	-	×

Parameters P11-18 and P11-19 set the total number and the serial numbers of the elevators for parallel/group control.

Parameter	Name	Range	Default value	Unit	Property
P11-20	Parallel floor offset	0 to 40	0	-	×

P11-20 applies to the situation where the bottom floors of the two parallel-controlled elevators are not consistent with each other. Parallel control is available via the setting of this parameter and there is no need to re-adjust the top/bottom floor or re-perform shaft auto-tuning.

Parameter	Name	Range	Default value	Unit	Property
P11-21	Program selection	Bit0: Separate standby Bit1: Reserved Bit2: Parallel control of monitoring port Bit3 to Bit5: Reserved Bit6: Floor number clearance and direction display in advance Bit7: Reserved Bit8: No display of floor number and direction on HOP Bit9: Analog disconnection	0	-	×

Parameter	Name	Range	Default value	Unit	Property
		detection disable Bit10: Re-leveling E030 disable Bit11 to Bit13: Reserved Bit14: Door lock 2 time interval detection Bit15: Reserved			

Parameter	Name	Range	Default value	Unit	Property
P11-22	Leveling sensor delay	10 to 50	14	ms	×
This parameter sets the time delay between the leveling sensor action and the leveling signal validation. No need for modification by user.					

Parameter	Name	Range	Default value	Unit	Property
P11-23	Collective selective mode	0 to 2	0	-	×
This parameter sets the collective selective mode of the integrated control system, and can be set to the following values: 0: Full collective selective, which means the elevator responds to the up/down hall calls; 1: Down collective, which means the elevator responds to the down hall calls only and rejects up hall calls; 2: Up collective, which means the elevator responds to the up hall calls only and rejects down hall calls;					

Parameter	Name	Range	Default value	Unit	Property
P11-24	Down collective 1 start time	00.00 to 23.59	00.00	HH.MM	○
P11-25	Down collective 1 end time	00.00 to 23.59	00.00	HH.MM	○
P11-26	Down collective 2 start time	00.00 to 23.59	00.00	HH.MM	○
P11-27	Down collective 2 end time	00.00 to 23.59	00.00	HH.MM	○
The four parameters from P11-24 to P11-27 define two time periods for down collective mode. During these two periods, the elevator operates in down collective mode, which means it responds to down calls only.					

Caution

To use down collective peak time service, it is required to set Bit6 of P12-09 to 1.

Parameter	Name	Range	Default value	Unit	Property
P11-28	Time-based service 1 start	00.00 to 23.59	00.00	HH.MM	○
P11-29	Time-based service 1 end	00.00 to 23.59	00.00	HH.MM	○
P11-30	Time-based service 1 service floor 1	0 to 65535	65535	-	○
P11-31	Time-based service 1 service floor 2	0 to 65535	65535	-	○
P11-32	Time-based service 1 service floor 3	0 to 65535	65535	-	○
P11-33	Time-based service 2 start	00.00 to 23.59	00.00	HH.MM	○
P11-34	Time-based service 2 end	00.00 to 23.59	00.00	HH.MM	○
P11-35	Time-based service 2 service floor 1	0 to 65535	65535	-	○
P11-36	Time-based service 2 service floor 2	0 to 65535	65535	-	○
P11-37	Time-based service 2 service floor 3	0 to 65535	65535	-	○

Parameters (P11-28 to P11-37) define two time periods for time-based service and set the corresponding service floors.

Service floor 1 corresponds to floor 1 to 16; service floor 2 corresponds to floor 17 to 32; service floor 3 corresponds to floor 33 to 40. For example, during the period of time-based service 1 (set by P11-28 and P11-29), the elevator serves the floors set by time-based service 1 service floor 1 (P11-30), time-based service 1 service floor 2 (P11-31), and time-based service 1 service floor 3 (P11-32) only, no matter what is set by P11-15, P11-16, and P11-17. The parameter setting method for time-based service floors is the same with the method for service floor setting of P11-15.

Caution

To use floor-based service, it is required to set Bit8 of P12-09 to 1 to enable the time-based service; afterwards, set two time periods of time-based service and their corresponding service floors.

Parameter	Name	Range	Default value	Unit	Property
P11-38	Parallel (Group) control peak time 1 start	00.00 to 23.59	00.00	HH.MM	○

Parameter	Name	Range	Default value	Unit	Property
P11-39	Parallel (Group) control peak time 1 end	00.00 to 23.59	00.00	HH.MM	○
P11-40	Peak time 1 floor	P11-07 to P11-06	1	-	×
P11-41	Parallel (Group) control peak time 2 start	00.00 to 23.59	00.00	HH.MM	○
P11-42	Parallel (Group) control peak time 2 end	00.00 to 23.59	00.00	HH.MM	○
P11-43	Peak time 2 floor	P11-07 to P11-06	1	-	×

The parameter group (P11-38, P11-39, and P11-40) is used to define the peak time period 1 for parallel/group control and its corresponding service floors.

The parameter group (P11-41, P11-42, and P11-43) is used to define the peak time period 2 for parallel/group control and its corresponding service floors.

In peak time, if the number of car calls from the peak time floor exceeds 3, the system enters the parallel/group control peak time service mode. In this mode, all the car calls from the peak time service floor are valid, and the car returns to the peak time service floor when it is idle.

Caution

Set Bit7 of P12-09 to 1 to enable the parallel/group control peak time service function; set Bit7 to 0 to disable the function.

Parameter	Name	Range	Default value	Unit	Property
P11-47	Elevator lockout start time	00.00 to 23.59	00.00	HH.MM	○
P11-48	Elevator lockout end time	00.00 to 23.59	00.00	HH.MM	○

Parameters P11-47 and P11-48 set the lockout time period. During this period, the system automatically locks up the elevator. The effect is the same with that of the lockout key switch.

Caution

Two methods to lock up the elevator:

① Set Bit5 of P11-49 to 1 to enable the lockout function (parameters P11-47 and P11-48 set the lockout time period, during which the system automatically locks up the elevator);

② Set P09-00 to 1 to activate the hall lockout key switch.

Parameter	Name	Range	Default value	Unit	Property
P11-49	Elevator function selection 1	0 to 65535	0	-	×
P11-50	Elevator function selection 2	0 to 65535	0	-	×
P11-51	Elevator function selection 3	0 to 65535	0	-	×

This parameter group is used for elevator function selection. Each bit represents one function, with value 1 for enabling the function and value 0 for disabling the function.

Parameters are defined as below:

P11-49 function selection 1			
Bit	Definition	Description	Default
Bit0	Accessibility function	To enable the accessibility function for passengers with disabilities.	0
Bit1	Software limit	When the up slowdown and the down leveling are enabled and the up leveling is disabled, it is recognized as upper limit; When the down slowdown and the up leveling are enabled and the down leveling is disabled, it is recognized as lower limit.	0
Bit2	JP16 serving as rear door selection (button)	JP16 serves as the input panel for rear door selection: when P08-20 is set to 2, this parameter is valid; the button connected to JP16 will illuminate upon press; when the button light is on, the car opens on the back side; when the button light is off, the car opens on the front side.	0
Bit3	JP16 serving as rear door open control	JP16 serves as the button to open the rear door.	0
Bit4	Through-type elevator single door open	This parameter is valid in through-type mode 3 and 4 only. In the above modes, the system opens one door only, and door open is available only when the other door is closed to limit. Note: The Pd parameter group provides "single/double door open" setting in expansion input. When the input is valid in through-type mode 3, door opens for the car call at the same time.	0
Bit5	Timed lockout	Only when this function is enabled, the setting of the timed lockout parameters P11-47 and P11-48 are valid.	0

Parameter	Name	Range	Default value	Unit	Property
Bit6	Manual door function	Use this function in manual door situations.			0
Bit7	Reserved	-			-
Bit8	Reserved	-			-
Bit9	Disable the function of call cancellation upon direction reverse	The elevator cancels all current car calls upon direction change. When this parameter is valid, the cancellation function is disabled.			0
Bit10	Display of the next running floor	During elevator running, the floor number on display represents the next running floor from the arriving floor.			0
Bit11	Car call priority	Car call precedes all hall calls. Hall calls will be responded only after all car calls are completed.			0
Bit12	Single-door car call auxiliary command terminal used for accessibility function	This parameter sets the CTB auxiliary command terminal CN8 as the input of disability call: 0: Same with CN7 in single-door mode, and rear door in through-type mode; 1: CN8 command set as the disability call.			0
Bit13	Duplicated commands used as accessibility function and rear door function	To set the function of the duplicated commands (parameter valid only when Bit14 is valid): 1: accessibility; 0: rear door.			0
Bit14	Car call command duplication	Car call command duplication: A: When the parameter is invalid, CN7 is used for the front door or normal calls, and CN8 is used for the rear door or disability calls; B: When the parameter is valid, input 1 to input 16 of CN7 and CN8 are used for the front door or normal calls, and input 17 to input 32 of CN7 and CN8 are used for the rear door or disability calls.			0
Bit15	JP20 serves as the switchover of back/front door	JP20 serves as the switchover input between the rear door and the front door.			0

P11-50 function selection 2			
Bit	Definition	Description	Default
Bit0	Reserved	-	-
Bit1	Reserved	-	-
Bit2	Slowdown to stop in	During inspection, level-1 slowdown switch on end	0

Parameter	Name	Range	Default value	Unit	Property
	inspection	floor is activated, and the elevator decelerates to stop.			
Bit3	Reserved	-			-
Bit4	Buzzer alert upon door open delay time end	When the door open delay time set by Pb.14 ends, the buzzer sends alert sound.			0
Bit5	Steel rope slip compensation	-			-
Bit6	Door open delay cancellation by re-input	Re-input the door open delay command to cancel the door open delay.			0
Bit7	Reserved	-			-
Bit8	Lockout with door open	In the lockout state, the elevator stays on the lockout floor and keeps door open.			0
Bit9	Display in the lockout state	In the lockout state, the display on HOP remains normal.			0
Bit10	lockout in the attendant state	Elevator lockout in the attendant state			0
Bit11	Display blinking at arrival	When the elevator arrives at the target floor, the in-car display blinks to alert, and the blinking advance time is set by P6.47.			0
Bit12	Door re-open upon door open delay input	The input of door open delay is valid during the process of door close, and the door re-opens upon the valid input.			0
Bit13	Door re-open at current floor car call	The car call from the current floor is valid during the process of door close, and the door opens upon car call.			0
Bit14	Meter count 8	-			-
Bit15	Meter count 6	-			-

P11-51 function selection 3			
Bit	Definition	Description	Default
Bit0	Reserved	-	-
Bit1	Delay of door open/close command withdrawal upon door open/close limit	When enabled, the door open/close command will be withdrawn after a delay of 1 second upon door open/close limit.	0
Bit2	No judgement of door lock-up status for door	When the system enables the function of no door-close output upon door close limit, it is usually	0

Parameter	Name	Range	Default value	Unit	Property
	close limit confirmation	required to confirm the door close limit first, which is recognized only upon door lock-up; however, in case this parameter is valid, the system does not perform the door lock-up status judgement before the confirmation of door close limit.			
Bit3	Output of door close during running	Continuous output of door close during running.			0
Bit4	Car return and correction upon power on	When the parameter setting is valid, the car will return to the bottom floor upon power on for the first time.			0
Bit5	Call cancellation upon elevator lockout	0: When the elevator lockout signal is valid, hall calls will be cleared, and the elevator will enter the lockout state after the registered car calls are completed; 1: When the elevator lockout signal is valid, all calls will be canceled immediately, and the elevator enters the lockout state.			0
Bit6	Electric lock NC output	When NC output is selected, the electric lock does not output in door open, but outputs in door close.			0
Bit7	Cancellation of E50 fault inspection	When Bit7 is set to 1, the system does not perform E50 fault inspection.			0
Bit8	Cancellation of inspection for door open/close limit fault	When enabled, the system does not perform the inspection of door open/close limit signal fault.			0
Bit9	Cancellation of fault subcode scrolling display	When enabled, the keypad does not provide scrolling display of fault subcode.			0
Bit10	Energy-saving function in door open status	When the system is on standby with door open limit, the in-car lighting and fan will be turned off after the time span set by P9.01.			0
Bit11	Independent switch to withdraw from parallel control	When enabled, the elevator will withdraw from parallel control and, meanwhile, remains in normal operation state; When disabled, the elevator will withdraw from parallel control and enters VIP running mode.			1

Parameter	Name	Range	Default value	Unit	Property
P11-52	Function selection in the attendant state	0 to 65535	128	-	×

Parameter	Name	Range	Default value	Unit	Property

P6.43 serves to select the attendant function. Each bit presents a function, with value 1 for enabling the function and value 0 for disabling the function. Check and configure the settings via the bit.

Definitions of the bits are shown in the table below:

P11-52 Function selection in the attendant state			
Bit	Definition	Description	Default
Bit0	Call cancellation in the attendant state	First time entry into the attendant state leads to the clearance of all registered car and hall calls.	0
Bit1	No response to hall call	The system does not automatically respond to the hall calls in spite of in-car blinking alert.	0
Bit2	Withdrawal from the attendant state	When this parameter is valid, the time for state switchover set by P16-10 will be valid.	0
Bit3	Manual door close	Hand press the door close button to close the door.	0
Bit4	Automatic door close	The door closes after the door open holding time, same with the situation in normal operation.	0
Bit5	Intermittent buzzer alert in the attendant state	The buzzer alert goes intermittently for 2.5 seconds when a hall call is registered.	0
Bit6	Continuous buzzer alert in the attendant state	When a hall call is registered, the buzzer alert starts and continues till a car call is registered on the same floor.	0
Bit7	In-car blinking in the attendant state	When a hall call registration is valid, the corresponding in-car button blinks to alert.	1

Parameter	Name	Range	Default value	Unit	Property
P11-53	Fire emergency function selection	0 to 65535	16456	-	×

P11-53 serves to select the fire emergency function. Each bit presents a function, with value 1 for enabling the function and value 0 for disabling the function.

Definitions of the bits are shown in the table below:

P11-53 Fire emergency function selection			
Bit	Definition	Description	Default
Bit0 to 2	Reserved	-	-
Bit3	Arrival gong alert output for inspection and fire emergency	Arrival gong alert output is activated in the inspection state and the fire emergency state.	1

Parameter	Name	Range	Default value	Unit	Property
Bit4	Multiple car call registration in the fire emergency state	During firefighter operation, the system supports multiple car call command registrations; otherwise, only one registration is allowed.			0
Bit5	Power failure memory in the fire emergency state	When there is a power failure in the fire emergency state, the system will record the status of the elevator and car, and recover the previous status after power on based on the memory.			0
Bit6	Door close by continuous press on door close button	To perform a door close in the fire emergency state, it is required to continuously press the door close button till the door close limit; otherwise, the system automatically switches to door open mode.			1
Bit7	Reserved	-			-
Bit8	Door close by car hall registration	COP car call buttons also serve as the door close button.			0
Bit9	HOP display in the fire emergency state	In the fire emergency state, the HOP displays the floor number of the car.			0
Bit10	Leave from the fire emergency floor using JP22	JP22 is used to activate the forced running by firefighter. During firefighter operation, activate the JP22 input and press the door close button at the same time; the buzzer alert starts afterwards, and the door close command is output. If the door lock does not connect after 10 seconds, the shorting door lock circuit contactor output will be initiated, and the elevator will start running (SCB-A is required).			0
Bit11	Withdrawal from the fire emergency state upon arrival on the fire emergency floor	To withdraw from the fire emergency state, it is required to return to the fire emergency floor first.			0
Bit12	Reservation of car calls in case of reverse door open by firefighter	When a reverse door open is performed by firefighter, the registered car calls won't be cleared.			0
Bit13	Reserved	-			-
Bit14	Door open by continuous press on door open button	To perform a door open in the fire emergency state, it is required to continuously press the door open button till the door open limit; otherwise, the system automatically switches to door close mode.			1

Parameter	Name	Range	Default value	Unit	Property
Bit15	Automatic door open upon arrival on the fire emergency floor	In the fire emergency state, the door automatically opens when the car arrives on the fire emergency floor.	0		

Parameter	Name	Range	Default value	Unit	Property
P11-54	Rescue function selection	0 to 65535	0	-	×

P11-54 serves to select the rescue function. Each bit presents a function, with value 1 for enabling the function and value 0 for disabling the function.

When Bit2 (parking on the rescue floor) of P11-54 is set to 1, the rescue parking floor means the one set by P11-13.

When Bit2 (parking on the rescue floor) of P11-54 is set to 0, the car parks on the nearest leveling position.

Definitions of the P11-54 bits are shown in the table below:

P11-54 Rescue function selection								
Bit	Definition	Description						Default
Bit0	Direction	0	Direction setting based on automatic calculation (heavy-load direction running, for no-load-cell mode)	0	Direction of the nearest parking floor	1	Direction setting based on load (heavy-load direction running, for load cell mode)	0
Bit1		0		1		0		0
Bit2	Parking on the rescue floor	In rescue running, the car moves to the floor set by P11-13 (it is the rescue parking floor, which shall be set to a non-zero value and within the range of service floors) and parks; otherwise, it parks on the nearest leveling position.						0
Bit3	Reserved	-						0
Bit4	Start-up compensation	No-load-cell start-up is enabled in the rescue running mode.						0
Bit5 to Bit7	Reserved	-						0
Bit8	Rescue running	An E33 fault will be reported if the rescue running						0

Parameter	Name	Range	Default value	Unit	Property
	time protection	time exceeds 50 seconds; in this situation, the function of the passing-time-limited switchover from the shorting stator braking mode to the drive mode is disabled.			
Bit9	Reserved	-			0
Bit10	Buzzer alert in the rescue state	In the rescue state, the buzzer alert acts intermittently.			0
Bit11	HCB alert	-			0
Bit12	Switchover from the shorting stator braking mode to the drive mode	After 10 seconds of shorting stator braking mode, if the speed is still less than the set switching speed, the system switches to the drive mode.			0
Bit14	Method for withdrawal from the rescue state	0	When the elevator car arrives at the target floor in the rescue state, the system withdraws from the rescue state upon door open limit signal.		0
		1	When the elevator car arrives at the target floor in the rescue state, the system withdraws from the rescue state upon door close limit signal.		
Bit15	Shorting stator braking function selection	This parameter is used to help the activation of the shorting stator braking functions: parameters related to the functions are valid only when this parameter is valid.			0

Please refer to the section 11.1 in this manual for the detailed information of the rescue functions.

Parameter	Name	Range	Default value	Unit	Property
P11-55	VIP function selection	0 to 65535	0	-	×

Parameter	Name	Range	Default value	Unit	Property
P11-56	Blinking advance time	0.0 to 15.0	1.0	s	○
P11-56 sets the blinking advance time for the car call arrival indicator.					

7.2.13 Group P12: Manufacturer parameters

Reserved.

7.2.14 Group P13: Keypad setting parameters

Parameter	Name	Range	Default value	Unit	Property
P13-00	Keypad display selection	0 to 3	3	-	○

There are three LEDs on the MCB of the Smile3000-V Home Elevator Integrated Control Cabinet. The LED display can be changed through the modification of this parameter by the user. The method of modification is shown below.

The following values are available for modification:

0: Reverse display of physical floor number;

1: Forward display of physical floor number;

2: Reverse display of hall call floor number;

3: Forward display of hall call floor number.

Parameter	Name	Range	Default value	Unit	Property
P13-01	Parameter display in the running status	1 to 65535	65535	-	○

PA.01 sets the display of the running status parameters on the operating panel during elevator operation.

15 running status parameters are available on the display during elevator operation, which correspond respectively to the 15 binary numbers of P13-01. Switch the parameter display using the shift key. Each parameter is controlled by one binary bit, with value 1 for displaying the parameter and value 0 for not displaying the parameter. Users may change the setting according to individual preference.

The running status parameters corresponding to the 15 binary bits are shown below:

Binary bit	Name	Default
Bit0	Running speed	1
Bit1	Rated speed	1
Bit2	Bus voltage	1
Bit3	Output voltage	1
Bit4	Output current	1
Bit5	Output frequency	-
Bit6	Input terminal low bit	-
Bit7	Input terminal high bit	-
Bit8	Output terminal	-

Parameter	Name	Range	Default value	Unit	Property
	Bit9	Current floor number	-		
	Bit10	Current position	-		
	Bit11	Car load	-		
	Bit12	CTB input status	-		
	Bit13	CTB output status	-		
	Bit14	System status	-		
	Bit15	Pre-torque current	-		

Check the parameter setting using the following method:

In elevator running, the selected running status parameter is displayed as a decimal number. Use the shift key to circle the display of the parameter of each bit.

Parameter	Name	Range	Default value	Unit	Property
P13-02	Parameter display in the stop state	1 to 65535	65535	-	○

This parameter sets the display of the status parameters on the operating panel during elevator stop.

This parameter comprises 16 binary bits, corresponding respectively to the 16 status parameters during elevator stop.

The status parameters during elevator stop which correspond to the 16 binary bits are shown below:

Binary bit	Name	Default	Binary bit	Name	Default
Bit0	Rated speed	1	Bit8	Deceleration distance at rated speed	1
Bit1	Bus voltage	1	Bit9	CTB input status	1
Bit2	Input terminal low bit	1	Bit10	CTB output status	1
Bit3	Input terminal high bit	1	Bit11	System status	1
Bit4	Output terminal	1	Bit12	Reserved	1
Bit5	Current floor number	1	Bit13	Reserved	1
Bit6	Current position	1	Bit14	Reserved	1
Bit7	Car load	1	Bit15	Reserved	1

Configure and check the parameter setting using the same method of PA.01.

The parameters during elevator stop/running provide important reference for the technicians to

Parameter	Name	Range	Default value	Unit	Property
perform the on-site commissioning of the Smile3000-V controller. The definitions of the parameters are explained below: Running speed: the actual running speed of the elevator, max. value set by P00-03, measured in m/s; Rated speed: the maximum running speed allowed in the current elevator state, measured in m/s; Bus voltage: the value of the DC bus voltage of the Smile3000-V controller, measured in V; Output voltage: the effective value of the equivalent voltage of the PWM waveform output by the Smile3000-V controller, measured in V; Output current: the effective value of the actual current for the Smile3000-V controller to drive the motor running, measured in A; Output frequency: the actual frequency during motor operation, corresponding to the running speed in a fixed manner, measured in Hz.					

7.2.15 Group P14: Manufacturer parameters

Reserved.

7.2.16 Group P15: Communication parameters

Parameter	Name	Range	Default value	Unit	Property
P15-00	Baud rate setting	0: 9600 1: 38400	1	-	×
P15-02	Local address	0 to 127. 0 refers to the broadcast address	1	-	×
P15-03	Response delay	0 to 20	0	ms	×
P15-04	Communication timeout	0 to 60	0	s	×
This group is dedicated to the parameter setting of the Smile3000-V controller RS232 serial port for the host computer monitoring software communication. P15-00 sets the Baud rate of the serial port communication. P15-02 sets the current local address. The values of P15-00 and P15-02 shall be consistent with the values of the corresponding serial port, which is the precondition for the normal communication of the serial ports. P15-03 sets the delay time for the controller serial port to send data. P15-04 sets the serial port communication timeout. All data frames shall be transmitted within the time					

Parameter	Name	Range	Default value	Unit	Property
range set by P15-04; otherwise, a communication fault will be reported.					

Parameter	Name	Range	Default value	Unit	Property
P15-05	Re-leveling stop delay	0.00 to 2.00	0.00	s	×
P15-05 sets the delay time for re-leveling. During re-leveling, the elevator decelerates to stop after the delay time which shall start at the moment of receiving the re-leveling signal.					

7.2.17 Group P16: Time parameters setting

Parameter	Name	Range	Default value	Unit	Property
P16-00	Maximum idle time before returning to parking floor	0 to 240	10	min	○
This parameter sets the allowed time span for being idle. When the car has been idle for the set time span, it starts to return to the parking floor.					

Parameter	Name	Range	Default value	Unit	Property
P16-01	Car energy-saving time	0 to 240	2	min	○
This parameter sets the time to turn off the in-car lighting and fan. In elevator automatic operation, if there has been no running command and the car has been idle for the time span set by this parameter, the in-car lighting and fan power supply will be automatically cut off.					

Parameter	Name	Range	Default value	Unit	Property
P16-02	Running time protection	0 to 45	45	s	×
This parameter sets the time limit for tractor operation. In normal operation, if the time of the continuous same-direction running between the two adjacent levels exceeds the limit set by this parameter and no leveling signal is received, the system will take protective measures. This parameter is mainly used for the steel rope protection in case of traction wheel slip. This parameter is invalid when the value is set below 3.					

Parameter	Name	Range	Default value	Unit	Property
P16-03	Clock: Year	2000 to 2100	Current time	YYYY	○
P16-04	Clock: Month	01 to 12	Current time	MM	○
P16-05	Clock: Day	1 to 31	Current time	DD	○
P16-06	Clock: Hour	0 to 23	Current time	HH	○
P16-07	Clock: Minute	0 to 59	Current time	MM	○
This parameter group sets the current date and time for the system. These parameters set the internal time for the control system. Timekeeping is available during power off. Set the system current time correctly to facilitate the accurate operation of time-related functions.					

Parameter	Name	Range	Default value	Unit	Property
P16-10	Automatic switchover time of attendant/normal state	3 to 200	3	s	×
In the attendant state, if there is a hall call from other floors, the system will switch to the automatic operation state after the time span set by P16-10 finishes; when the running for the hall call finishes, the system switches back to the attendant state (this function will be enabled only when the Bit2 of P11-52 is valid); when the value of P16-10 is set below 5, the above functions will be disabled, and the system operates in the same way of the attendant state.					

7.2.18 Group P17: Test function parameters

This parameter group is used to facilitate the system commissioning.

Before the normal-speed trial run, please confirm that the shaft is clear and all parameters are correctly configured. First, transport the car to the middle floor of the service floors in the inspection speed to prevent accidents caused by wrong direction running. Test of single floor running shall precedes that of multiple floors running. Please check whether this parameter group setting is correct before complete the commissioning.

Parameter	Name	Range	Default value	Unit	Property
P17-00	Car call registration	0 to P6.00	0	-	○
P17-01	Up call registration	0 to P6.00	0	-	○
P17-02	Down call registration	0 to P6.00	0	-	○
These parameters are used to set the target floors during commissioning and maintenance, and function respectively as the car call button, the up hall call button, and the down hall call button. The					

Parameter	Name	Range	Default value	Unit	Property
setting takes effect after the test command is configured, and stays valid till it is changed to 0 or the system is completely powered off.					

Parameter	Name	Range	Default value	Unit	Property
P17-03	Times of random run	0 to 60000	0	-	○
P17-03 sets the number of times for the system to perform random running. The Smile3000-V controller provides automatic random running function. P17-03 is used to set the number of times for the system to generate a random target floor and perform automatic running. If the value exceeds 60000, the automatic random running will continue till P17-03 is set to 0. The time interval of random running can be set by P17-08.					

Parameter	Name	Range	Default value	Unit	Property
P17-04	Hall call enable	0, 1	0	-	○
P17-04 is used to enable/prohibit hall call function, and can be set to the following values: 0: Hall call allowed; 1: Hall call prohibited.					

Parameter	Name	Range	Default value	Unit	Property
P17-05	Door open enable	0, 1	0	-	○
P17-05 is used to enable/prohibit door open function, and can be set to the following values: 0: Door open allowed; 1: Door open prohibited.					


Caution

Operation with door open function prohibited accelerates the heating of controller modules, and leads to over-temperature protection if the situation remains for an over extended period. Please use with caution.

Parameter	Name	Range	Default value	Unit	Property
P17-06	Overload enable	0, 1	0	-	○

Parameter	Name	Range	Default value	Unit	Property
P17-06 is used to enable/prohibit overload operation function, and can be set to the following values: 0: Overload operation prohibited; 1: Overload operation allowed.					

P17-06 is used for heavy-load test run. When the test run finishes, please set the parameter value to 0 to prohibit overload operation function.

Parameter	Name	Range	Default value	Unit	Property
P17-07	Limit enable	0, 1	0	-	○
P17-07 is used to enable/disable the limit switch, and can be set to the following values: 0: Limit switch enabled; 1: Limit switch disabled.					

Disable the limit switch only when checking the final limit switch. Please use with caution.

Parameter	Name	Range	Default value	Unit	Property
P17-08	Time interval of random run	0 to 1000	0	s	○
P17-08 sets the time interval between two times of random run.					

7.2.19 Group P19: Floor height

Parameter	Name	Range	Default value	Unit	Property
P19-00	High bit of floor height 1	0 to 65535	0	Pulse number	×
P19-01	Low bit of floor height 1	0 to 65535	0	Pulse number	×
High/Low bit of floor height 2 to 38					
P19-94	High bit of floor height 39	0 to 65535	0	Pulse number	×
P19-95	Low bit of floor height 39	0 to 65535	0	Pulse number	×

Parameter	Name	Range	Default value	Unit	Property
This parameter group indicates the pulse number corresponding to the floor height i, which means the absolute difference between the pulse number corresponding to the height of floor i leveling plate and the pulse number corresponding to the height of floor (i+1) leveling plate. Each floor height corresponds to a 32-bit binary number, of which the high 16 bits correspond to the high bits of this floor height and the low 16 bits correspond to the low bits of this floor height. In normal situations, each floor possesses a similar pulse number corresponding to its floor height.					

7.2.20 Group P20: Leveling adjustment setting

Parameter	Name	Range	Default value	Unit	Property
P20-00	Leveling adjustment mode	0: Disabled 1: Leveling adjustment enabled	0	-	×
P20-00 is used to disable/start the leveling adjustment function.					

Parameter	Name	Range	Default value	Unit	Property
P20-01	Leveling adjustment record 1	00000 to 60060	30030	mm	×
P20-02	Leveling adjustment 2		30030	mm	×
...			...		
P20-23	Leveling adjustment 23		30030	mm	×

This parameter group is used to record the leveling adjustment value of each floor. Each parameter records the leveling adjustment information of two floors, making the total recording capacity up to 56 floors. Record and check the information using the method below:

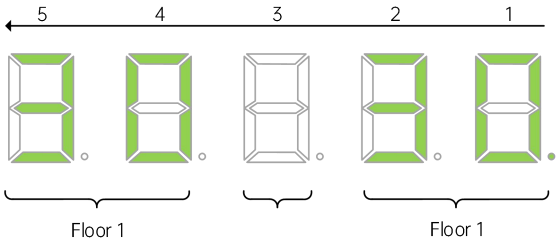


Fig. 7-5 Leveling adjustment parameter explanation

As shown in the above figure, the leftmost two digits represent the adjustment base of floor 1, and the

Parameter	Name	Range	Default value	Unit	Property
rightmost two digits represent the adjustment base of floor 2. When the number exceeds 30, the leveling is adjusted upwards; when the number is less than 30, the leveling is adjusted downwards; when the number is 30, which is set by default, there is no need to adjust the leveling. The range of adjustment is ±30mm. Adjust the leveling using the method below: Before adjustment, make sure that the shaft auto-tuning is completed, and the normal-speed running performance is normal; Set P20-00 to 1 to start the in-car leveling process; hall calls will be shielded; the car will be transported to the top floor and the door will stay open; if the car is already on the top floor, the door will stay open; Enter the car; press the top floor car call button, and the leveling will be adjusted 1 mm upwards; press the bottom floor car call button, and the leveling will be adjusted 1 mm downwards; the adjustment value will be displayed in the car; positive adjustment is displayed as "up arrow + value", and negative adjustment is displayed as "down arrow + value"; the leveling adjustment range is ±30mm; When the leveling adjustment of the current floor is completed, press the top floor and the bottom floor car call buttons at the same time to save the changes; the in-car display will switch to the normal state; if the current floor does not need to be adjusted, it is still required to press the top floor and the bottom floor car call buttons at the same time to exit the leveling adjustment state; otherwise, car call can not be registered; Press the door close button to close the door; register a car call, and the car will move to the next floor for leveling adjustment; the door will open when the car arrives and stay open; When all the leveling adjustment is completed, change P20-00 to 0 to disable the leveling adjustment function; otherwise, the elevator is not available for use!				

7.2.21 Group P21: Floor display setting

Parameter	Name	Range	Default value	Unit	Property
P21-01	Floor 1 display	00: Display "0"; 01: Display "1" 02: Display "2"; 03: Display "3" 04: Display "4"; 05: Display "5" 06: Display "6"; 07: Display "7" 08: Display "8"; 09: Display "9" 10: Display "A"; 11: Display "B" 12: Display "G"; 13: Display "H" 14: Display "L"; 15: Display "M"	1901	-	○
P21-02	Floor 2 display		1902	-	○
P21-03	Floor 3 display		1903	-	○
P21-04	Floor 4 display		1904	-	○
P21-05	Floor 5 display		1905	-	○
P21-06	Floor 6 display		1906	-	○
P21-07	Floor 7 display		1907	-	○

Parameter	Name	Range	Default value	Unit	Property
P21-08	Floor 8 display	16: Display "P"; 17: Display "R" 18: Display "-"; 19: No display 20: Display "12"; 21: Display "13" 22: Display "23" Larger than 22: No display	1908	-	○
P21-09	Floor 9 display		1909	-	○
P21-10	Floor 10 display		0100	-	○
Floor 11 to floor 30 display			...		
P21-31	Floor 31 display		0301	-	○
P21-32	Floor 32 display		0302	-	○
P21-33	Floor 33 display		0303	-	○
P21-34	Floor 34 display		0304	-	○
P21-35	Floor 35 display		0305	-	○
P21-36	Floor 36 display		0306	-	○
P21-37	Floor 37 display		0307	-	○
P21-38	Floor 38 display		0308	-	○
P21-39	Floor 39 display		0309	-	○
Floor 40 to floor 47 display			...		
P21-48	Floor 48 display		0408	-	○
This parameter group set the information displayed for each floor. The value shall be set within the range of 0000 to 9999, of which the high two bits designate the tens digit of the floor number and the low two bits designate the units digit of the floor number.					

Parameter	Name	Range	Default value	Unit	Property
P21-49	Highest bit selection 1	0 to 5699	0	-	○
P21-50	Highest bit selection 2		0	-	○
P21-51	Highest bit selection 3		0	-	○
P21-52	Highest bit selection 4		0	-	○
P21-53	Highest bit selection 5		0	-	○
This parameter group sets the special display for the floor number. If a 2-digit display can not meet the demand, the system provides a third digit display via the highest					

Parameter	Name	Range	Default value	Unit	Property
bit selection function. The high two bits of the highest bit selection set the address of the floor that needs special display, and the low two bits set the display content. For example, if it is required to display floor 18 as floor 17A, first, set P21-18 to 0710 (to display "7A"); then, set the highest bit display, such as setting PE.65 to 180 (that means the highest bit of the floor, of which the address is 18, is displayed as "1"). Set Bit0 of P8.14 to 1; the system powers off and then powers on again.					

7.2.22 Group D00: Configuration information

Parameter	Name	Range	Default value
D00-00	Drive rated power	0.1 to 999.9	kW
D00-01	Drive rated voltage	0 to 999	V
D00-02	Drive rated current	0.1 to 999.9	A
D00-03	Control board software version	0.00 to 9.99	-
D00-04	Drive board software version	0.00 to 9.99	-
D00-05	CTB software version	0.00 to 9.99	-
D00-06	Control board customized software version	0.00 to 9.99	-
D00-07	Drive board customized software version	0.00 to 9.99	-
D00-08	CTB customized software version	0.00 to 9.99	-
D00-09	Control board manufacturer software version	0.00 to 9.99	-
D00-10	Drive board manufacturer software version	0.00 to 9.99	-
D00-11	CTB manufacturer software version	0.00 to 9.99	-
D00-12	Functional specifications version	0.00 to 9.99	-
D00-13	Control board software second version number	0.00 to 9.99	-

7.2.23 Group D01: Running status

Parameter	Name	Range	Default value	Unit	Property
D01-00	Set speed	0.000 to 4.000	0	m/s	*

Parameter	Name	Range	Default value	Unit	Property
D01-01	Feedback speed	0.000 to 4.000	0	m/s	*
D01-02	Bus voltage	0 to 999.9	0	V	*
D01-03	Current position	0.00 to 300.00	0	m	*
D01-04	Output current	0 to 999.9	0	A	*
D01-05	Output frequency	0.00 to 99.99	0	Hz	*
D01-06	Torque current	0 to 999.9	0	A	*
D01-07	Output voltage	0 to 999.9	0	V	*
D01-08	Output torque	0 to 100	0	%	*
D01-09	Output power	0.00 to 99.99	0	kW	*
Parameters (D01-00 to D01-09) set the display of the current performance parameters (the output torque and the output power are displayed with positive/negative sign).					

Parameter	Name	Range	Default value	Unit	Property
D01-10	Heatsink temperature	0 to 100	0	℃	*
D01-10 sets the display of the current temperature of the heatsink. In normal situations, the heatsink temperature shall be below 40℃. When an over-temperature situation occurs, the system will automatically decrease the carrier frequency to reduce the heating effect. When the temperature reaches a certain high value, the system will report a module over-temperature fault and stop operation.					

Parameter	Name	Range	Default value	Unit	Property
D01-13	Pre-torque current	0.0 to 200.0	0	%	*
D01-13 sets the display of the ratio of the pre-torque current to the rated current in percentage (with positive/negative sign, and electric/generating state display).					

Parameter	Name	Range	Default value	Unit	Property
D01-14	Logical information	0 to 65535	0	-	*
This parameter sets the display of the elevator status parameters.					

Parameter	Name	Range	Default value	Unit	Property

The five LED digits are respectively represented by 1, 2, 3, 4, and 5 from right to left as shown in the following figure. Digit 1 indicates the status of door 1, digit 2 and digit 3 are reserved, and digit 4 and digit 5 indicate the elevator state. The definitions of values are explained in the following table:

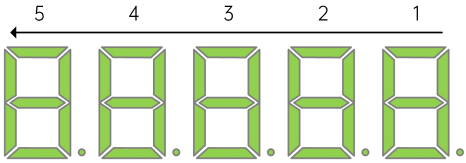


Fig. 7-6 LED display

5		4		3	2	1	
Elevator state				Reserved	Reserved	Door 1 status	
00	Inspection	08	Elevator lockout	Reserved	Reserved	0	Standby
01	Shaft auto-tuning	09	Idle parking			1	Door open
02	Micro-leveling	10	Re-leveling at a low speed			2	Door open limit
03	Return to the fire emergency floor	11	Rescue operation			3	Door close
04	Firefighter operation	12	Motor commissioning			4	Door close limit
05	Fault	13	Keypad control			5	Running
06	Attendant	14	Main floor check			-	-
07	Automatic	15	VIP			-	-

Parameter	Name	Range	Default value	Unit	Property
D01-15	Curve information	0 to 65535	0	-	*

D01-15 sets the display of the running curve information. Digit 4 and digit 3 indicate the running curve information, and digit 2 and digit 1 indicate the running time sequence, as shown in the following table:

5	4	3	2	1
Time sequence information		No display	Curve information	
00	Running stop state	-	00	standby state

Parameter	Name	Range	Default value	Unit	Property

01	Shorting door lock circuit contactor output	01	Start speed stage	
02	Shorting motor stator contactor output, RUN contactor output	02, 03	Acceleration start section	
03	Zero speed holding	04	Linear acceleration section	
04	Brake contactor output	05, 06, 07	Acceleration end section	
05	Curve running	08	Stable speed running section	
06	Zero speed at stop	09, 10, 11	Deceleration start section	
07	Brake contactor disconnect	12	Linear deceleration section	
08	running stop time sequence	13, 14	Deceleration end section	
		15	Curve stop	

Parameter	Name	Range	Default value	Unit	Property
D01-16	System state 2	0 to 65535	0	-	*

The display of D01-16 system state 2 is described below:

No.	Definition	No.	Definition
0	Display up direction	8	Reserved
1	Display down direction	9	Reserved
2	Running state	10	Reserved
3	System full-load	11	Reserved
4	System overload	12	Reserved
5	System half-load	13	Reserved
6	System light-load	14	Reserved
7	Reserved	15	Reserved

Parameter	Name	Range	Default value	Unit	Property

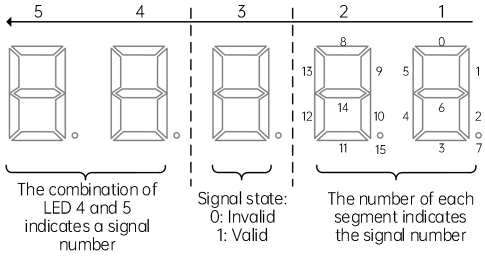


Fig. 7-7 D01-16 system state 2 display

Parameter	Name	Range	Default value	Unit	Property
D01-17	Input status 6	0 to 65535	0	-	
D01-18	Input status 7	0 to 65535	0	-	
D01-19	Output status 3	0 to 65535	0	-	
D01-20	Output status 4	0 to 65535	0	-	

Parameter	Name	Range	Default value	Unit	Property
D01-21	Accumulative running time	0 to 65535	0	h	*
D01-22	High bit of running times	0 to 9999	0	-	*
D01-23	Low bit of running times	0 to 9999	0	-	*
This parameter group is used to check the actual running time and the number of actual running times. Number of running times = high bit of running times × 10000 + low bit of running times					

Parameter	Name	Range	Default value	Unit	Property
D01-24	Current encoder angle	0.0 to 359.9	0.0	°	*
D01-24 sets the display of the real-time angle of the encoder. Value modification is not available.					

Parameter	Name	Range	Default value	Unit	Property
D01-25	Running time for maximum floor	0 to 200	0	s	*

Parameter	Name	Range	Default value	Unit	Property
	distance				
This parameter sets the time required for the fast-speed running from the bottom floor to the top floor. The minimum values of D01-25+10s and P16-02 serve as the reference time for motor running time protection. During elevator running, if the leveling signal stays unchanged for a time span exceeding the above reference time, the system will report an E30 fault and stop running.					

Parameter	Name	Range	Default value	Unit	Property
D01-26	Zero servo rollback distance	0 to 65535	0		
-					

Parameter	Name	Range	Default value	Unit	Property
D01-27	Static current	0.00 to 655.00	0	A	×
D01-27 sets the value of static current for static component authentication.					

7.2.24 Group D02: MCB status

Parameter	Name	Range	Default value	Unit	Property
D02-00	Input status 1	0 to 65535	0	-	*
D02-01	Input status 2	0 to 65535	0	-	*
D02-02	Input status 3	0 to 65535	0	-	*
D02-03	Input status 4	0 to 65535	0	-	*
D02-04	Input status 5	0 to 65535	0	-	*
D02-05	Output status 1	0 to 65535	0	-	*
D02-06	Output status 2	0 to 65535	0	-	*
Parameters (D02-00 to D02-01) set the display of the system input/output status . Input status 1 (D02-00) is displayed using the method described below: As shown in the following figure, the five LED digits are respectively represented by 1, 2, 3, 4, and 5 from right to left. Digit 5 and 4 indicate a function of an input/output terminal; digit 3 indicates whether this function is enabled (1) or disabled (0); digit 1 and 2 provide 16 LED segments to indicate the overall status of the 16 functions of the parameter.					

Parameter	Name	Range	Default value	Unit	Property

No.	Definition	No.	Definition
0	Reserved	8	Inspection signal
1	Up leveling signal	9	Inspection up running signal
2	Down leveling signal	10	Inspection down running signal
3	Door zone signal	11	Fire emergency signal
4	Safety circuit feedback	12	Upper limit signal
5	Door lock circuit feedback	13	Lower limit signal
6	RUN contactor feedback	14	Overload signal
7	Brake contactor feedback	15	Full-load signal

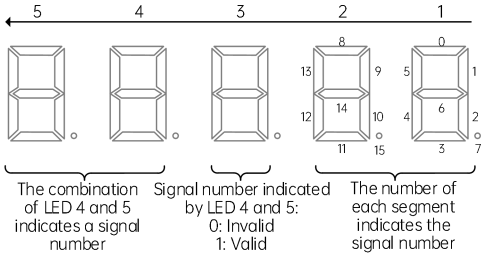


Fig. 7-8 D02-00 input status 1 display

Example:

Method to display the status of system input/output

As shown in the following figure, the combination of digit 5, 4, and 3 indicates that function 10 (inspection down running signal) is set to 1 (valid), and the combination of digit 1 and 2 indicates that not only function 10 (inspection down running signal) but also function 4 (safety circuit feedback), 5 (door lock circuit feedback), 6 (RUN contactor feedback), 7 (brake contactor feedback), and 8 (inspection signal) are valid.

No.	Definition	No.	Definition
0	Reserved	8	Inspection signal
1	Up leveling signal	9	Inspection up running signal
2	Down leveling signal	10	Inspection down running signal
3	Door zone signal	11	Fire emergency signal
4	Safety circuit feedback	12	Upper limit signal
5	Door lock circuit feedback	13	Lower limit signal
6	RUN contactor feedback	14	Overload signal

Parameter	Name	Range	Default value	Unit	Property
7	Brake contactor feedback	15	Full-load signal		

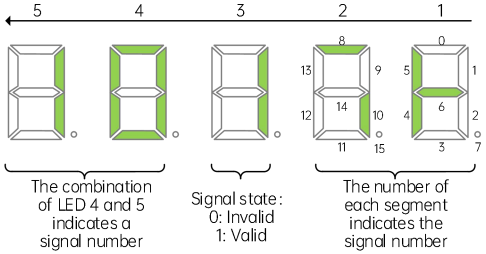


Fig. 7-9 D02-00 input status example

Input status 2 (D02-01) is displayed using the method described below:

No.	Definition	No.	Definition
16	Up level-1 slowdown signal	24	Door machine 1 light curtain
17	Down level-1 slowdown signal	25	Door machine 2 light curtain
18	Up level-2 slowdown signal	26	Brake travel switch 1 feedback
19	Down level-2 slowdown signal	27	UPS input
20	Up level-3 slowdown signal	28	Elevator lockout input
21	Down level-3 slowdown signal	29	Safety circuit 2 feedback
22	Shorting door lock circuit contactor output feedback	30	Shorting motor stator contactor feedback input
23	Firefighter operation signal	31	Door lock circuit 2 feedback

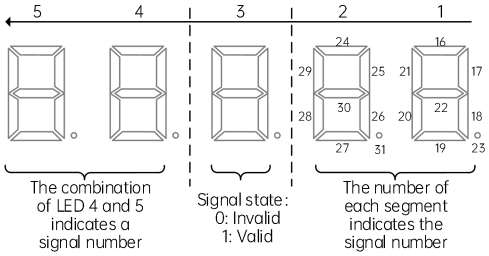


Fig. 7-10 D02-01 input status 2 display

Input status 3 (D02-02) is displayed using the method described below:

No.	Definition	No.	Definition

Parameter	Name	Range	Default value	Unit	Property

32	Reserved	40	Fire emergency floor switchover
33	Door 1 safety edge input	41	Dummy floor input
34	Door 2 safety edge input	42	Reserved
35	Motor over-temperature input	43	Reserved
36	Earthquake signal input	44	Door 1 open input
37	Rear door prohibit	45	Door 2 open input
38	Light-load	46	Brake travel 2 feedback
39	Half-load	47	External fault input

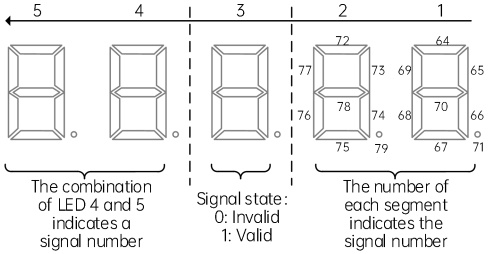


Fig. 7-11 D02-02 input status 3 display

Input status 4 (D02-03) is displayed using the method described below:

No.	Definition	No.	Definition
48	End floor signal	56	Reserved
49	Door lock shorting input	57	Reserved
50	Reserved	58	Reserved
51	Reserved	59	Reserved
52	Reserved	60	Reserved
53	Reserved	61	Reserved
54	Reserved	62	Reserved
55	Reserved	63	Reserved

Parameter	Name	Range	Default value	Unit	Property

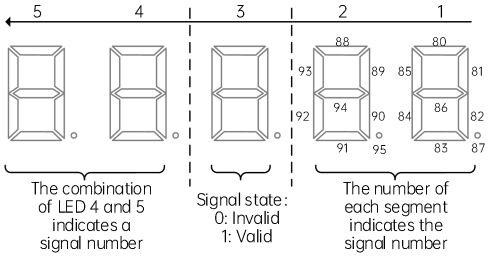


Fig. 7-12 D02-03 input status 4 display

Input status 5 (D02-04) is displayed using the method described below:

No.	Definition	No.	Definition
0	Reserved	8	Reserved
1	Reserved	9	Reserved
2	Reserved	10	Reserved
3	Reserved	11	Reserved
4	High-voltage safety circuit	12	Reserved
5	High-voltage door lock 1 signal	13	Reserved
6	High-voltage door lock 2 signal	14	Reserved
7	High-voltage door lock shorting	15	Reserved

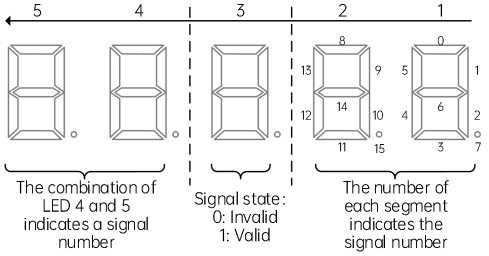


Fig. 7-13 D02-04 input status 5 display

Output status 1 (D02-05) is displayed using the method described below:

No.	Definition	No.	Definition
0	Reserved	8	Door machine 2 door close
1	RUN contactor output	9	Brake contactor and RUN contactor normal

Parameter	Name	Range	Default value	Unit	Property

2	Brake contactor output	10	Above-level-3 fault state
3	Shorting door lock circuit contactor output	11	Running state
4	Fire emergency floor arrival	12	Shorting motor stator contactor output
5	Door machine 1 door open	13	Emergency running output in case of power failure
6	Door machine 1 door close	14	Contactor output normal
7	Door machine 2 door open	15	Emergency buzzer output

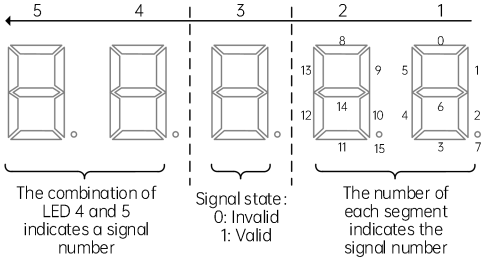


Fig. 7-14 D02-05 output status 1 display

Output status 2 (D02-06) is displayed using the method described below:

No.	Definition	No.	Definition
16	Higher-voltage brake release output	24	Reserved
17	Elevator up running signal	25	Reserved
18	Lighting/Fan output	26	Reserved
19	Medical disinfection output	27	Reserved
20	Car stop in non-door zone	28	Reserved
21	Electromagnetic lock output	29	Reserved
22	Non-service state	30	Reserved
23	Rescue running end output	31	Reserved

Parameter	Name	Range	Default value	Unit	Property

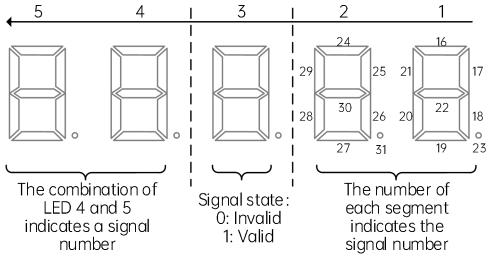


Fig. 7-15 D02-06 output status 2 display

Parameter	Name	Range	Default value	Unit	Property
D02-07	Terminal state display	MCB input/output terminal monitoring	-	-	○
D02-08	Terminal state display	CTB/COP/HOP input/output terminal monitoring	-	-	○

This parameter group monitors the status of all the system input and output.

As shown in the following figure, the five LED digits are respectively represented by 5, 4, 3, 2, and 1 from left to right to indicate the settings of D02-07/D02-08. Definition of each LED segment is described in the following table:

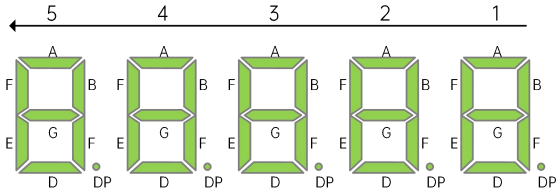


Fig. 7-16 Terminal state monitoring

D02-07 terminal state display					
	1	2	3	4	5
A	-	Inspection signal	Up level-1 slowdown signal	Door machine 1 light curtain	Reserved
B	Up leveling signal	Inspection up running signal	Down level-1 slowdown signal	Door machine 2 light curtain	RUN contactor output
C	Down leveling	Inspection	Up level-2	Brake output	Brake contactor

Parameter	Name		Range	Default value	Unit	Property
	signal	down running signal	slowdown signal	feedback 2	output	
D	Door zone signal	Fire emergency signal	Down level-2 slowdown signal	UPS input	Shorting door lock circuit contactor output	
E	Safety circuit feedback 1	Upper limit signal	Up level-3 slowdown signal	Elevator lockout input	Fire emergency floor arrival signal	
F	Door lock circuit feedback 1	Lower limit signal	Down level-3 slowdown signal	Safety circuit feedback 2	-	
G	Running output feedback	Overload signal	Shorting door lock circuit contactor output feedback	Synchronous motor self-lock feedback	-	
DP	Brake output feedback 1	Full-load signal	Firefighter operation signal	Door lock circuit feedback 2	-	

D02-08 terminal state display					
	1	2	3	4	5
A	Light curtain 1	Door open button	Door open output 1	Door open button display	System light curtain status 1
B	Light curtain 2	Door close button	Door close output 1	Door close button display	System light curtain status 2
C	Door open limit 1	Door open delay button	Door lock signal	Door open delay button display	Hall call elevator lockout input
D	Door open limit 2	Direct arrival signal	Door open output 2	Non-door zone car stop output	Hall call fire emergency input
E	Door close limit 1	Attendant signal	Door close output 2	Reserved	Full-load signal
F	Door close limit 2	Direction switchover signal	Door lock signal	Buzzer output	Overload signal
G	Full-load signal	Independent running signal	Up arrival gong mark	Reserved	-
DP	Overload	Firefighter	Down arrival	Energy-saving	-

Parameter	Name		Range	Default value	Unit	Property
	signal	operation signal	gong mark	mark		

7.2.25 Group D03: CTB status

Parameter	Name	Range	Default value	Unit	Property
D03-00	Car input status	0 to 65535	0	-	*
D03-01	Car output status	0 to 65535	0	-	*

Parameters D03-00 and D03-01 display the status of car input/output. The display method is the same with that of the MCB input/output display.

Car input display of D03-00 is explained below:

No.	Definition	No.	Definition
0	Reserved	8	Overload input
1	Door 1 light curtain	9	Light-load input
2	Door 2 light curtain	10	Reserved
3	Door 1 open limit	11	Reserved
4	Door 2 open limit	12	Reserved
5	Door 1 close limit	13	Reserved
6	Door 2 close limit	14	Reserved
7	Full-load input	15	Reserved

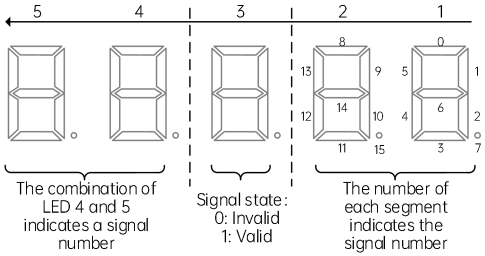


Fig. 7-17 D03-00 car input status display

Car output display of D03-01 is explained below:

No.	Definition	No.	Definition

Parameter	Name	Range	Default value	Unit	Property

0	Lighting and fan	8	Down arrival gong signal
1	Door 1 open	9	Reserved
2	Door 1 close	10	Reserved
3	Forced door 1 close	11	Reserved
4	Door 2 open	12	Reserved
5	Door 2 close	13	Reserved
6	Forced door 2 close	14	Reserved
7	Up arrival gong signal	15	Reserved

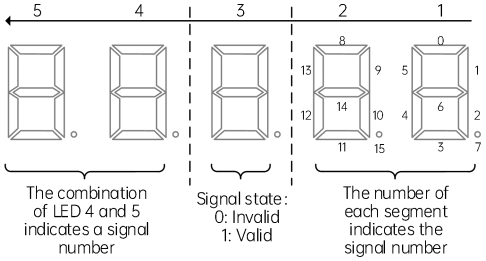


Fig. 7-18 D03-01 car output status display

Parameter	Name	Range	Default value	Unit	Property
D03-02	Hall state	0 to 65535	0	-	*
D03-03	System status 1	0 to 65535	0	-	*

This parameter group is used to display the hall state and the system status. The display method is the same with that of the MCB input/output display.

Hall state display of D03-02 is explained below:

No.	Definition	No.	Definition
0	Reserved	8	Reserved
1	Elevator lockout signal	9	Reserved
2	Fire emergency signal	10	Reserved
3	Current floor prohibit	11	Reserved
4	VIP signal	12	Reserved
5	Reserved	13	Reserved

Parameter	Name	Range	Default value	Unit	Property
6	Reserved	14	Reserved		
7	Reserved	15	Reserved		

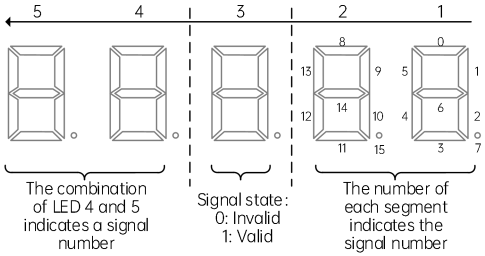


Fig. 7-19 D03-02 hall state display

System status 1 display of D03-03 is explained below:

No.	Definition	No.	Definition
0	Door 1 open button	8	Door 2 open button
1	Door 1 close button	9	Door 2 close button
2	Door open delay 1	10	Door open delay 2
3	Direct arrival switch	11	Reserved
4	Attendant switch	12	Reserved
5	Direction switch	13	Reserved
6	Independent switch	14	Reserved
7	Fire emergency 2 switch	15	Reserved

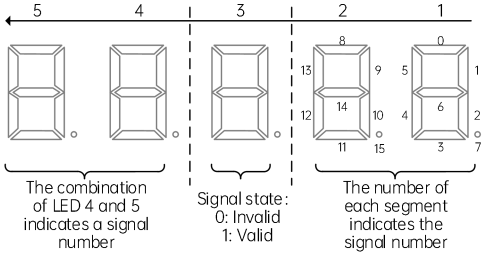


Fig. 7-20 D03-03 system status 1 display

7.2.26 Group D04: Communication status

Parameter	Name	Range	Default value	Unit	Property
D04-00	Hall call communication status 1	0 to 65535	0	-	*
D04-01	Hall call communication status 2	0 to 65535	0	-	*
D04-02	Hall call communication status 3	0 to 65535	0	-	*

This parameter group is used to display the communication status between the MCB and the HOP of each floor.

Parameters (D04-00 to D04-02) are used to display the communication status between the HOP and the Modbus terminal of the MCB.

Hall call communication status 1, 2, and 3 represent respectively the HOP communication status of floor 1 to 16, floor 17 to 32, and floor 33 to 48. Check the display using the method explained below:

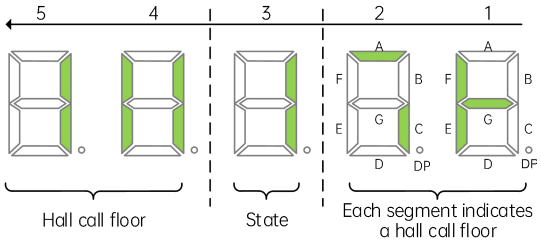


Fig. 7-21 Hall call communication status check

As shown in Fig. 7-21, the display status of LED digit 3, 4, and 5 indicates that the hall call communication of floor 11 is normal. Press the Up/Down button to change the display of LED digit 4 and 5 to check the communication status of other floors. The display status of LED digit 1 and 2 indicates that the hall call communication of floor 5, 6, 7, 8, 9, and 11 is normal.

Parameter	Name	Range	Default value	Unit	Property
D04-03	Communication interference	0 to 65535	0	-	*

D04-03 is used to display the quality of all current communication channels of the system. The details are explained below:

5		4		3		2		1	
Inverter SPI communication quality		Rectifier SPI communication quality		CAN2 communication quality		MOD communication quality		CAN1 communication quality	
0	High	0	High	0	High	0	High	0	High

Parameter	Name	Range	Default value	Unit	Property
↓	↑	↓ ↑ ↓ ↑ ↓ ↑	↓ ↑	↓	↑
9	Interrupted	9 Interrupted 9 Interrupted 9	Interrupted	9	Interrupted

Ratings from 0 to 9 indicate the quality of communication. A higher rating indicates greater interference, which leads to the worsening of communication.

Parameter	Name	Range	Default value	Unit	Property
D04-04	Encoder interference	0 to 65535	0	-	*

Parameter	Name	Range	Default value	Unit	Property
D04-05	Communication status	CANbus and Modbus communication status monitoring	-	-	○

This parameter is used to monitor the CTB CANbus communication status and the HOP Modbus communication status.

When entering the D04-05 menu, the LED display on the keypad indicates the current HOP communication status. As shown in the following figure, the five LED digits are respectively represented by 5, 4, 3, 2, and 1 from left to right, and definitions of each digit and segment are explained below:

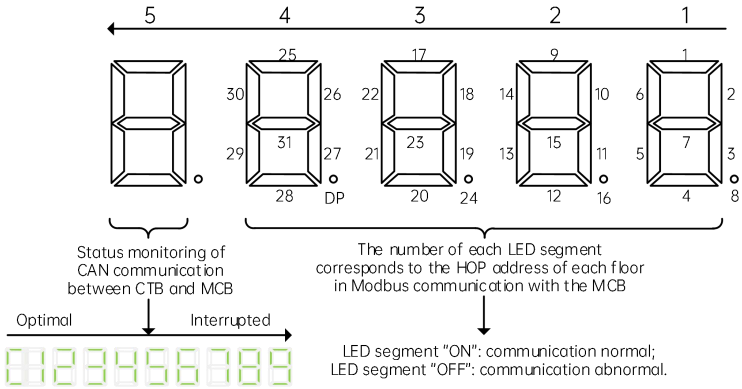
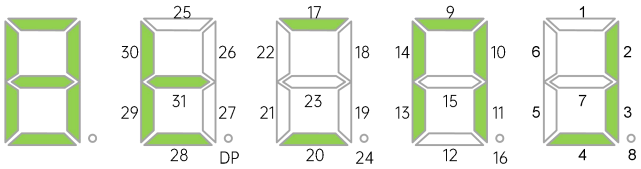


Fig. 7-22 D04-05 communication status monitoring

Example of checking the communication status via LED display.

Parameter	Name	Range	Default value	Unit	Property
The display below indicates that the Modbus communication status for address 1, 5, 6, 7, 12, 15, 16, 18, 19, 21, 22, 23, 25, 26, and 27 is abnormal and the communication status for other addresses is normal. The rating for CAN communication status is 8, indicating serious interruption.  Fig. 7-23 Communication status monitoring example					

7.2.27 Groups E00 to E01: Fault recording parameters

Parameter	Name	Range	Default value	Unit	Property
E00-00	First fault	0 to 9999	0	-	○
E00-01	Subcode of first fault	0 to 65535	0	-	○
E00-02	Month and day of first fault	0 to 1231	0	MM.DD	○
E00-03	Hour and minute of first fault	0 to 23.59	0	HH.MM	○
E00-04	Second fault	0 to 9999	0	-	○
E00-05	Subcode of second fault	0 to 65535	0	-	○
E00-06	Month and day of second fault	0 to 1231	0	MM.DD	○
E00-07	Hour and minute of second fault	0 to 23.59	0	HH.MM	○
... ...					
E00-196	Fiftieth fault	0 to 9999	0	-	○
E00-197	Subcode of fiftieth fault	0 to 65535	0	-	○
E00-198	Month and day of fiftieth fault	0 to 1231	0	MM.DD	○
E00-199	Hour and minute of fiftieth fault	0 to 23.59	0	HH.MM	○
After the number of detailed fault records reaches 10, the earliest detailed fault record will be relocated to the position of simple fault. For example, when a new fault occurs, the information previously recorded in the group E9, such as the fault code, subcode, date, and time, will be automatically relocated to the position of E00-00 to E00-04.					

Parameter	Name	Range	Default value	Unit	Property
A simple fault is recorded by four bits, of which the high two bits indicate the floor number of the car when the fault occurs and the low two bits indicate the fault code. If the first fault is recorded as 0835, it means that the last simple fault is fault 35 that occurred when the car was close to floor 8. The subcode is used to determine the cause of the corresponding fault, and the month, day, hour, and minute indicate the detailed time of the fault occurrence.					

Parameter	Name	Range	Default value	Unit	Property
E01-00	The last fault	0 to 9999	0		*
E01-01	Subcode of the last fault	0 to 65535	0		*
E01-02	Month and day of the last fault	0 to 1231	0	MM.DD	*
E01-03	Hour and minute of the last fault	0 to 23.59	0	HH.MM	*
E01-04	Logical information of the last fault	0 to 65535	0	-	*
E01-05	Curve information of the last fault	0 to 65535	0	-	*
E01-06	Speed reference of the last fault	0.000 to 4.000	0	m/s	*
E01-07	Feedback speed of the last fault	0.000 to 4.000	0	m/s	*
E01-08	Bus voltage of the last fault	0 to 999.9	0	V	*
E01-09	Current position of the last fault	0.0 to 300.0	0	m	*
E01-10	Output current of the last fault	0.0 to 999.9	0	A	*
E01-11	Output frequency of the last fault	0.00 to 99.99	0	Hz	*
E01-12	Torque current of the last fault	0.0 to 999.9	0	A	*
E01-13	Output voltage of the last fault	0 to 999.9	0	V	*
E01-14	Output torque of the last fault	0 to 200.0	0	%	*
E01-15	Output power of the last fault	0.00 to 99.99	0	kW	*
E01-16	Communication interference of	0 to 65535	0	-	*

Parameter	Name	Range	Default value	Unit	Property
	the last fault				
E01-17	Encoder interference of the last fault	0 to 65535	0	–	*
E01-18	Input status 1 of the last fault	0 to 65535	0	–	*
E01-19	Input status 2 of the last fault	0 to 65535	0	–	*
E01-20	Input status 3 of the nearest fault	0 to 65535	0	–	*
E01-21	Input status 4 of the last fault	0 to 65535	0	–	*
E01-22	Input status 5 of the last fault	0 to 65535	0	–	*
E01-23	Output status 1 of the last fault	0 to 65535	0	–	*
E01-24	Output status 2 of the last fault	0 to 65535	0	–	*
E01-25	Car input status of the last fault	0 to 65535	0	–	*
E01-26	Car output status of the last fault	0 to 65535	0	–	*
E01-27	Hall state of the last fault	0 to 65535	0	–	*
E01-28	System status 1 of the last fault	0 to 65535	0	–	*
E01-29	System status 2 of the last fault	0 to 65535	0	–	*
...					
E10-00	The tenth fault	0 to 9999	0	–	*
E10-01	Subcode of the tenth fault	0 to 65535	0	–	*
E10-02	Month and day the tenth fault	0 to 1231	0	MM.DD	*
E10-03	Hour and minute the tenth fault	0 to 23.59	0	HH.MM	*
E10-04	Logical information the tenth fault	0 to 65535	0	–	*
E10-05	Curve information the tenth fault	0 to 65535	0	–	*
E10-06	Speed reference the tenth fault	0.000 to 4.000	0	m/s	*
E10-07	Feedback speed the tenth fault	0.000 to 4.000	0	m/s	*

Parameter	Name	Range	Default value	Unit	Property
E10-08	Bus voltage the tenth fault	0 to 999.9	0	V	*
E10-09	Current position the tenth fault	0.0 to 300.0	0	m	*
E10-10	Output current the tenth fault	0.0 to 999.9	0	A	*
E10-11	Output frequency the tenth fault	0.00 to 99.99	0	Hz	*
E10-12	Torque current the tenth fault	0.0 to 999.9	0	A	*
E10-13	Output voltage the tenth fault	0 to 999.9	0	V	*
E10-14	Output torque the tenth fault	0 to 200.0	0	%	*
E10-15	Output power the tenth fault	0.00 to 99.99	0	kW	*
E10-16	Communication interference the tenth fault	0 to 65535	0	-	*
E10-17	Encoder interference the tenth fault	0 to 65535	0	-	*
E10-18	Input status 1 the tenth fault	0 to 65535	0	-	*
E10-19	Input status 2 the tenth fault	0 to 65535	0	-	*
E10-20	Input status 3 the tenth fault	0 to 65535	0	-	*
E10-21	Input status 4 the tenth fault	0 to 65535	0	-	*
E10-22	Input status 5 the tenth fault	0 to 65535	0	-	*
E10-23	Output status 1 the tenth fault	0 to 65535	0	-	*
E10-24	Output status 2 the tenth fault	0 to 65535	0	-	*
E10-25	Car input status the tenth fault	0 to 65535	0	-	*
E10-26	Car output status the tenth fault	0 to 65535	0	-	*
E10-27	Hall state the tenth fault	0 to 65535	0	-	*
E10-28	System status 1 the tenth fault	0 to 65535	0	-	*
E10-29	System status 2 the tenth fault	0 to 65535	0	-	*

This parameter group is used to record the information of the last 10 faults. The details of the system status parameters when each fault occurs are included.

Chapter 8 Fault Removal

8.1 Fault type

The Smile3000-V Home Elevator Integrated Control Cabinet provides nearly 70 warnings and protective measures. The controller real-time monitors various input signals, operating conditions, external feedback information, etc. Once an abnormality occurs, corresponding protective functions are activated, and the controller displays fault codes.

This integrated controller is a complex electrical control system. The fault messages it generates can be classified into five categories based on the severity of their impact on the system. Different categories of faults require corresponding handling methods, as shown in the table below:

Table 8-1 Fault type description

Type	Status	Removal
Level 1	• Display fault code • Fault relay action command output	1A: No impact on overall operation performance.
Level 2	• Display fault code • Fault relay action command output • Normal elevator running	2B: The door pre-open/re-leveling function is disabled.
Level 3	• Display fault code • Fault relay action command output • Immediate lockout and brake engagement upon stop	3A: Special deceleration to stop when the car is running at a low speed; re-start is prohibited.
		3B: No stop when the car is running at a low speed; stop when the car is running at a high speed; low-speed running is available after 3 seconds upon stop.
Level 4	• Display fault code • Fault relay action command output • Decelerate to stop with distance control; re-start is prohibited	4A: Special deceleration to stop when the car is running at a low speed; re-start is prohibited.
		4B: No stop when the car is running at a low speed; stop when the car is running at a high speed; low-speed running is available after 3 seconds upon stop.
		4C: No stop when the car is running at a low speed; low-speed running is available after 3 seconds upon stop.

Level 5	• Display fault code • Fault relay action command output • Immediate stop	5A: Stop the car immediately when it is running at a low speed; re-start is prohibited.
		5B: No stop when the car is running at a low speed; low-speed running is available after 3 seconds upon stop.

8.2 Fault code and troubleshooting

If a fault is reported by the controller, the controller will react according to the fault category. Meanwhile, the user can conduct fault analysis based on the information provided in this section, identify the cause and find a solution.

Code	Description	Cause	Solution	Type
E01	Hardware overcurrent	The main circuit output is grounded or short circuited.	① Check whether the motor wiring and grounding are correct; ② Check whether a short circuit occurs on the controller output side due to shorting motor stator contactor abnormalities; ③ Check whether the motor power cable jacket is damaged;	5A
		Motor auto-tuning is not performed, or performed incorrectly.	Set the motor parameters according to its nameplate, and re-perform the motor auto-tuning;	
		Abnormal encoder signal	① Check whether the value of encoder pulses per revolution is set correctly; ② Check whether the encoder signal is interfered with, whether the encoder cables have independent ducting, whether the cables are too long, and whether the shield is grounded at one end; ③ Check whether the encoder is reliably installed, and whether the connection between the rotating shaft and the motor shaft is fixed and secured without any twisting or instability during high-speed	

Code	Description	Cause	Solution	Type
			operation; ④ Check whether the encoder is correctly and reliably wired;	
		The phase sequence in motor connection is incorrect.	Interchange the motor UVW phases, and re-perform the motor auto-tuning;	
		The acceleration/deceleration is too fast.	Reduce the acceleration/deceleration rate;	
E02	Overvoltage	Excessive input voltage	Check whether the input voltage is too high; Monitor and check whether the bus voltage is too high (the bus voltage shall be with the range of 540V to 580V when the input voltage stays at 380V);	5A
		The braking resistance is set too high, or the braking unit is abnormal.	① Check the balance coefficient; ② Check whether the bus voltage increase during operation is too fast; an excessively fast increase in bus voltage indicates an idle braking resistor or improper braking resistor model; ③ Check whether the braking resistor wiring cables are damaged, whether the copper wires touch the ground, and whether the connection are reliable; ④ Re-check and confirm that the actual resistance is within the proper range; ⑤ In case an over-voltage occurs every time the elevator reaches the target speed while the braking resistance is set in the proper range, decrease the P04.01/P04.04 value to reduce the curve following error and prevent over-voltage due to system overshoot;	
		Excessive acceleration/deceleration rate in the	Reduce the acceleration/deceleration rate.	

Code	Description	Cause	Solution	Type
		acceleration/deceleration section		
E03	Undervoltage	Instantaneous power failure upon power supply input	① Check whether any power failure occurs during running; ② Check whether the connection is reliable for all the power supply input cables;	5A
		The input voltage is too low.	Check whether the external power voltage is too low;	
		The drive control board is abnormal.	Contact the agent or manufacturer;	
E04	Drive overcurrent	The main circuit output is grounded or short circuited.	① Check whether the motor wiring and grounding are correct; ② Check whether a short circuit occurs on the controller output side due to shorting motor stator contactor abnormalities; ③ Check whether the motor power cable jacket is damaged;	5A
		Motor auto-tuning is not performed, or performed incorrectly.	Set the motor parameters according to its nameplate, and re-perform the motor auto-tuning;	
		Encoder signal abnormal	① Check whether the value of encoder pulses per revolution is set correctly; ② Check whether the encoder signal is interfered with, whether the encoder cables have independent ducting, whether the cables are too long, and whether the shield is grounded at one end; ③ Check whether the encoder is reliably installed, and whether the connection between the rotating shaft and the motor shaft is fixed and secured without any twisting or instability during high-speed operation;	

Code	Description	Cause	Solution	Type
			④ Check whether the encoder is correctly and reliably wired;	
		The phase sequence in motor connection is incorrect.	Interchange the motor UVW phases, and re-perform the motor auto-tuning;	
		The acceleration/deceleration is too fast.	Reduce the acceleration/deceleration rate;	
E05	Resistance identification error	Motor abnormal	Check whether the motor wiring is correct, whether the connection is normal, and whether the motor winding is normal;	5A
		External voltage abnormal	Check whether the bus voltage is too low or unstable;	
E06	Excessive speed deviation	The parameter of speed PI is set improperly.	Modify the setting of the group P04 function code;	5A
		Speed deviation detection value is set too low	Modify the setting of the speed deviation detection value;	
		Violent load fluctuation	Eliminate the load vibration	
E07	Drive over-temperature	The ambient temperature is too high.	Reduce the ambient temperature;	5A
		The fan is damaged.	Replace the damaged fan;	
		The air flue is clogged.	① Clear the air flue; ② Check whether the controller installation clearance complies with the requirements;	
E08	Power output phase loss	The output wiring of the main circuit is loose.	① Check whether the connection of the motor wiring is secured; ② Check whether the RUN contactor on the output side is normal;	5A
		The motor is damaged.	Confirm that the motor internal winding is normal;	

Code	Description	Cause	Solution	Type
E09	Drive overload	Excessive external mechanical resistance	① Check whether the brake is released, and whether the brake power supply is normal; ② Check whether the guide shoes are too tight;	5A
		The balance coefficient is inappropriate.	Check whether the balance coefficient is appropriate;	
		The encoder feedback signal is abnormal.	Check whether the encoder feedback signal and the encoder parameter setting are correct, and whether the initial angle of the synchronous motor encoder is correct;	
		Motor auto-tuning is not performed properly.	① Check the motor parameters and the encoder installation angle for any wrong settings, and re-perform the motor auto-tuning; ② If the fault occurs during a slip experiment, perform the slip experiment using the slip function;	
		The phase sequence in motor connection is incorrect.	Confirm that the phase sequence of the motor UVW cables is correct;	
		A drive with insufficient power is used.	During no-load or constant-speed running, if the current exceeds the rated value of the drive, it indicates that a drive model with insufficient power is used;	
E10	Motor overload	Excessive external mechanical resistance	① Check whether the brake is released, and whether the brake power supply is normal; ② Check whether the guide shoes are too tight;	5A
		The balance coefficient is inappropriate.	Check whether the balance coefficient is appropriate;	
		Motor auto-tuning is not performed properly.	① Check the motor parameters and the encoder installation angle for any wrong	

Code	Description	Cause	Solution	Type
			settings, and re-perform the motor auto-tuning; ② If the fault occurs during a slip experiment, perform the slip experiment using the slip function;	
		The phase sequence in motor connection is incorrect.	Confirm that the phase sequence of the motor UVW cables is correct;	
		A drive with insufficient power is used.	During no-load or constant-speed running, if the current exceeds the rated value of the drive, it indicates that a drive model with insufficient power is used;	
E11	Drive input phase loss	The power supply input phases are not symmetric.	① Check whether any phase loss occurs on the input side of the three-phase power supply; ② Check whether the phases on the input side of the three-phase power supply are balanced; ③ Check whether the power supply voltage is normal, and adjust the power supply input voltage.	5A
		The drive control board is abnormal.	Contact the agent or manufacturer;	
E12	Motor software overcurrent	The main circuit output is grounded or short circuited.	① Check whether the motor wiring and grounding are correct; ② Check whether a short circuit occurs on the controller output side due to shorting motor stator contactor abnormalities; ③ Check whether the motor power cable jacket is damaged;	5A
		Motor auto-tuning is not performed, or performed incorrectly.	Set the motor parameters according to its nameplate, and re-perform the motor auto-tuning;	
		Abnormal encoder signal	① Check whether the value of encoder	

Code	Description	Cause	Solution	Type
			pulses per revolution is set correctly; ② Check whether the encoder signal is interfered with, whether the encoder cables have independent ducting, whether the cables are too long, and whether the shield is grounded at one end; ③ Check whether the encoder is reliably installed, and whether the connection between the rotating shaft and the motor shaft is fixed and secured without any twisting or instability during high-speed operation; ④ Check whether the encoder is correctly and reliably wired;	
		The phase sequence in motor connection is incorrect.	Interchange the motor UVW phases, and re-perform the motor auto-tuning;	
		The acceleration/deceleration is too fast.	Reduce the acceleration/deceleration rate;	
E13	Dynamic tuning fault	Subcode 1: AB in the same direction and CD in different directions with the power cable UVW phase sequence.	P04-30 encoder CD direction: reverse, and re-perform the dynamic tuning;	5A
		Subcode 2: AB in different directions and CD in the same direction with the power cable UVW phase sequence.	P04-29 encoder AB direction: reverse, and re-perform the dynamic tuning;	
		Subcode 3: AB and CD are both in different directions with the power cable UVW phase sequence.	Reverse the direction of both P04-29 and P04-30, and re-perform the dynamic tuning; or interchange any two of the power cable UVW phases, and re-perform the dynamic tuning;	

Code	Description	Cause	Solution	Type
		Subcode 4: AB and CD are both in the same direction with the power cable UVW phase sequence, but the deviation of the installation angle result is too large, which indicates that AB and CD may be abnormal.	① Check whether the value of encoder pulses per revolution is set correctly; ② Check whether the encoder signal is interfered with, whether the encoder cables have independent ducting, whether the cables are too long, and whether the shield is grounded at one end; ③ Check whether the encoder is reliably installed, and whether the connection between the rotating shaft and the motor shaft is fixed and secured without any twisting or instability during high-speed operation; ④ Check whether the encoder is correctly and reliably wired;	
		Subcode 5: CD signal abnormal.		
		Subcode 6: AB signal abnormal.		
		Subcode 7: AB and CD signals both abnormal.		
E14	Reserved	Reserved	Reserved	5A
E15	Encoder abnormal	Excessive interference with the AB and CD signals	① Check whether the value of encoder pulses per revolution is set correctly; ② Check whether the encoder signal is interfered with, whether the encoder cables have independent ducting, whether the cables are too long, and whether the shield is grounded at one end; ③ Check whether the encoder is reliably installed, and whether the connection between the rotating shaft and the motor shaft is fixed and secured without any twisting or instability during high-speed operation; ④ Check whether the encoder is correctly and reliably wired;	5A
		CD needs to be corrected.	Perform auto-tuning of encoder CD signal correction;	

Code	Description	Cause	Solution	Type
		AB and CD are in different Directions.	① Perform no-load dynamic auto-tuning; ② Modify the encoder direction parameters, and re-perform the motor auto-tuning;	
E16	Reserved	Reserved	Reserved	5A
E17	Reserved	Reserved	Reserved	5A
E18	Hardware abnormal	Current zero-drift detection fault	Contact the agent or manufacturer;	5A
E19	Reserved	Reserved	Reserved	5A
E20	Sin-cos encoder CD disconnected	The CD signal is disconnected or connected abnormally.	① Check CD wiring; ② Excessive interference with the encoder cables;	5A
E21	Parameter setting incorrect	Subcode 1: In the distance control mode, open-loop operation is enabled.	① Set the system to closed-loop operation in the distance control mode; ② Enter the keypad control mode when enabling the open-loop operation;	
E22	Leveling signal abnormal	Subcode 1: The leveling signal is stuck.	① Check whether the leveling sensor and the door zone sensor operate properly; ② Check whether the leveling plate is installed with sufficient verticality and depth into the sensor; ③ Check whether the leveling signal input points of the MCB are normal;	1A
		Subcode 2: The leveling signal is lost.		
		Subcode 3: The leveling position deviation is too large in the elevator automatic running state.	Check whether the steel rope slips;	
E23	Short-circuit fault	Subcode 1/2/3: Fault of short circuit to ground	Check whether the three-phase output of the AC drive is grounded;	5A
		Subcode 4: Fault of inter-phase short circuit	Check whether a fault of inter-phase short circuit or short circuit to ground occurs in the three-phase output of the AC drive;	

Code	Description	Cause	Solution	Type
E24	RTC clock fault	Subcode 1: MCB clock information abnormal	① Replace the clock battery; ② Replace the MCB;	3B
E25	Data storage abnormal	Subcode 1/2/3: MCB data storage is abnormal.	Contact the agent or manufacturer;	4A
E26	Earthquake signal	Subcode 1: The earthquake signal is active, and the duration exceeds 2 s.	Check whether the earthquake input signal is consistent with the MCB parameter setting (NC, NO);	3B
E27	Reserved	Reserved	Contact the agent or manufacturer;	-
E28	Reserved	Reserved	Contact the agent or manufacturer;	-
E29	Shorting motor stator contactor feedback abnormal	Subcode 1: Shorting motor stator contactor feedback to the MCB is abnormal. Subcode 2: Shorting motor stator contactor feedback to the I/O extension board is abnormal.	① Check whether the input signal status (NO, NC) of the shorting motor stator contactor feedback is normal; ② Check whether the contactor and the corresponding feedback contact act normally; ③ Check whether the contactor coil circuit power supply is normal;	5A
E30	Elevator position abnormal	Subcode 1/2: The leveling signal is not changed within a certain time period in the normal-speed or re-leveling running mode.	① Check whether the leveling signal cables are reliably connected, whether the copper wires touch the ground, and whether the cables are short circuited with other signal cables; ② Check whether the excessive re-leveling time is caused by the floor-to-floor distance being too large or the value of the re-leveling speed (set by P03-02) being too small;	4A
E31	Reserved	Reserved	Reserved	-
E32	Reserved	Reserved	Reserved	-
E33	Elevator speed abnormal	Subcode 1: The detected running speed during normal-speed running	① Check whether the parameter setting and the wiring of the encoder are correct; ② Check the parameter settings	5A

Code	Description	Cause	Solution	Type
		exceeds the limit.	according to the nameplate, and re-perform the motor auto-tuning;	
		Subcode 2: The speed exceeds the limit during inspection or shaft auto-tuning.	Lower the speed in inspection, or re-perform the motor auto-tuning;	
		Subcode 3: The speed exceeds the limit in shorting stator braking mode.	① Check whether the shorting motor stator function is enabled; ② Check whether the motor UVW phase sequence is correct;	
		Subcode 4/5: The speed exceeds the limit during emergency running.	① Check whether the emergency power capacity meets the requirements; ② Check whether the emergency running speed is set properly;	
		Subcode 6: Excessive speed deviation detected by MCB.	① Check the encoder wiring; ② Check whether the SPI communication between the MCB and drive board is normal;	
E34	Logical fault	MCB logic abnormal	Contact the agent or manufacturer for MCB replacement;	5A
E35	Shaft auto-tuning data abnormal	Subcode 1: When the shaft auto-tuning is started, the car is not at the bottom floor, or the down level-1 slowdown switch is disabled.	Check whether the down level-1 slowdown switch is enabled, and whether the current floor (P4.01) is set to the bottom floor;	4C
		Subcode 2: The system is not in the inspection state (inspection switch not turned on) during shaft auto-tuning.	Check whether the inspection switch is turned on, and whether the system is in the inspection state;	
		Subcode 3: An absence of shaft auto-tuning is detected upon power on.	Re-perform the shaft auto-tuning;	
		Subcode 4/14/24: An		

Code	Description	Cause	Solution	Type
		absence of shaft auto-tuning is detected upon running start-up in the distance control mode.		
		Subcode 5: The elevator running direction and the pulse change are inconsistent.	Check whether the elevator running direction is consistent with the pulse change in P11-03 (P11-03 increases in up running and decreases in down running);	
		Subcode 6/7/9: The leveling plate pulse length is abnormal, and the spacing between the upper and lower leveling sensors is inappropriate.	① Check whether the NO/NC status of the leveling sensor is set correctly; ② If the leveling sensor signal blinks, please check whether the plate is installed properly, and whether there is significant power interference;	
		Subcode 8/10: No change in auto-tuning leveling signal for 45 seconds of running.	① Check whether the leveling sensor is correctly wired; ② Check whether the running timeout is caused by an excessive floor distance; increase the speed (P03-06) and re-perform the shaft auto-tuning to ensure that the elevator is able to complete the tuning of the longest travel within a period of 45 s.	
		Subcode 11/15: The floor height data stored is lower than 50 cm.	In case a floor height less than 50 cm does exist, please enable the ultrashort floor distance function; In case such a floor height does not exist, please check whether the leveling plate of the current floor is correctly installed, whether the leveling sensor is working properly, or whether the sensor wiring is correct;	
		Subcode 12: When the auto-tuning finishes, the stop floor is not the top floor.	Check whether the top floor setting (P11-06) is correct, or whether the leveling plate is absent;	

Code	Description	Cause	Solution	Type
		Subcode 16: The upper and lower leveling signals are reversed.	① Check whether the upper/lower leveling sensors are correctly wired; ② Check whether the spacing between the upper and lower leveling sensors is appropriate;	
E36	RUN contactor feedback abnormal	Subcode 1: The feedback of the RUN contactor is active, but the contactor has no output.	① Check whether the feedback contact of the contactor acts properly; ② Check the signal status (NO/NC) of the feedback contact;	5A
		Subcode 2: The controller outputs the RUN signal but receives no RUN feedback.		
		Subcode 5: The RUN contactor feedback is active before the re-leveling starts.		
		Subcode 3: The current from acceleration to constant-speed running for the asynchronous motor is too small (≤0.1 A).	Check whether the controller output cable connection is normal, and whether the control circuit of the RUN contactor coil is normal;	
E37	Brake contactor feedback abnormal	Subcode 1: The output of the brake contactor is inconsistent with its feedback status.	① Check whether the brake contactor opens and closes properly; ② Check whether the contactor feedback contact setting (NO/NC) is correct; ③ Check whether the feedback circuit of the brake contactor is normal;	5A
		Subcode 3: The output of the brake contactor is inconsistent with the brake travel switch 1 feedback status.	① Check whether the signal status (NO/NC) of the brake travel switch 1/2 feedback contact is set correctly; ② Check whether the feedback circuit of the brake travel switch 1/2 is normal;	

Code	Description	Cause	Solution	Type
		Subcode 10: The output of the brake contactor 2 is inconsistent with the brake 2 feedback status.	Check whether the feedback circuit of the brake travel switch 1/2 is normal;	
		Subcode 11: The output of the brake contactor is inconsistent with the brake travel switch 2 feedback status.		
E38	Encoder signal abnormal	Subcode 1: The pulse signal of P11-03 does not change within the time threshold set by P02-10	① Check whether the encoder is used correctly; ② Check whether the brake works properly;	5A
		Subcode 2: The pulse of P11-03 increases during downward running.	① Check whether the parameter setting and the wiring of the encoder are correct; ② Check whether the system grounding and the signal grounding are reliable; ③ Check whether the motor UVW phase sequence is correct;	
		Subcode 3: The pulse of P11-03 decreases during upward running.		
		Subcode 4: The system is set to the open-loop control in the distance control mode.	Set P00-00 to 1 to enable the closed loop vector control in the distance control mode;	
E39	Component fault	Subcode 1: The motor overheat relay input remains valid for a certain time span.	① Check whether the parameter setting (NO/NC) is correct; ② Check whether the thermal protection relay socket is normal; ③ Check whether the motor is used properly, and whether it is damaged; ④ Improve the cooling conditions for the motor;	3A
		Subcode 2: The front door machine overheat relay input remains valid for a certain time span.		
		Subcode 3: The rear door machine overheat relay input remains valid for a certain time span.		

Code	Description	Cause	Solution	Type
		Subcode 4: Fan motor overheat.		
		Subcode 5: The external fault signal remains active for 2 s.	① Check the NO/NC setting of external faults; ② Check the input state of the external fault signal	
		Subcode 6: ARD fault.	The ARD is abnormal; check the ARD;	
E40	Reserved	Reserved	Contact the agent or manufacturer;	4B
E41	Safety circuit disconnected	Subcode 1: No safety circuit signal.	① Check the safety circuit switches and their status; ② Check whether the external power supply is normal; ③ Check whether the safety circuit contactor acts properly; ④ Check the signal status (NO/NC) of the feedback contact of the safety circuit contactor;	5A
E42	Door lock disconnected during running	Subcode 1/2: The door lock circuit feedback is invalid during the elevator running.	① Check whether the hall door lock and the car door lock are in good contact; ② Check whether the door lock contactor acts properly; ③ Check the signal status (NO/NC) of the feedback contact of the door lock contactor; ④ Check whether the external power supply is normal;	5A
E43	Upper limit signal abnormal	Subcode 1: The upper limit switch acts during elevator upward running.	① Check the signal status (NO/NC) of the upper limit switch; ② Check whether the upper limit switch is in good contact; ③ Check whether the limit switch is installed at a position lower than required, which may lead to switch actions even when the elevator arrives at the end floor	4A
		Subcode 2: The up level-1 slowdown switch is enabled and the upper limit switch acts at the same time during elevator downward		4A

Code	Description	Cause	Solution	Type
		running.	in a normal fashion;	
E44	Lower limit signal abnormal	Subcode 1: The lower limit switch acts during elevator downward running.	① Check the signal status (NO/NC) of the lower limit switch; ② Check whether the lower limit switch is in good contact; ③ Check whether the limit switch is installed at a position higher than required, which may lead to switch actions even when the elevator arrives at the end floor in a normal fashion;	4A
		Subcode 2: The down level-1 slowdown switch is enabled and the lower limit switch acts at the same time during elevator upward running.		
E45	Slowdown switch abnormal	Subcode 1: Insufficient distance for down slowdown during shaft auto-tuning.	① Check whether the up/down slowdown switch is in good contact; ② Check the signal status (NO/NC) of the up/down slowdown switch; ③ Confirm that the deceleration distance allowed by the installed slowdown switches meets the requirement of deceleration at the current speed;	4B
		Subcode 2: Insufficient distance for up slowdown during shaft auto-tuning.		
		Subcode 3: The slowdown switch is stuck or the position is abnormal during normal running.		
		Subcode 6: The up/down level-2 slowdown switch acts abnormally during shaft auto-tuning.	① Check whether the up/down level-2 slowdown switch is wired correctly; ② Check the signal status (NO/NC) of the up/down level-2 slowdown switch;	
		Subcode 7: The up/down level-3 slowdown switch acts abnormally during shaft auto-tuning.	① Check whether the up/down level-3 slowdown switch is wired correctly; ② Check the signal status (NO/NC) of the up/down level-3 slowdown switch;	
E46	Re-leveling abnormal	Subcode 1: The leveling signal is inactive during re-leveling.	Check whether the leveling signal is normal;	2B
		Subcode 2: The	Check whether the encoder is used	

Code	Description	Cause	Solution	Type
		re-leveling running speed exceeds 0.1 m/s.	properly;	
E47	Shorting door lock circuit contactor abnormal	Subcode 1: During re-leveling, the shorting door lock circuit contactor outputs continuously for 2 s, but the feedback is invalid or the door lock is disconnected.	① Check the signal status (NO/NC) of the feedback contact of the shorting door lock circuit contactor; ② Check whether the shorting door lock circuit contactor acts properly;	2B
		Subcode 2: During re-leveling, the shorting door lock circuit contactor has no output, but the feedback remains valid for 2 s.		
		Subcode 6: The shorting door lock circuit contactor feedback is detected to be valid before re-leveling.		
		Subcode 3: During re-leveling and pre-open running, the output time of the shorting door lock circuit contactor is larger than 15 s.	① Check whether the leveling and re-leveling signals are normal; ② Check whether the re-leveling speed is set too low;	
E48	Door open fault	Subcode 1: The number of the consecutive times that the door does not open to the limit reaches the value set by P08-09.	① Check whether the door machine system works properly; ② Check whether the CTB output is normal; ③ Check whether the door open limit signal and the door lock signal are normal;	5A
E49	Door close fault	Subcode 1: The number of the consecutive times that the door does not close to the limit reaches	① Check whether the door machine system works properly; ② Check whether the CTB output is normal;	5A

Code	Description	Cause	Solution	Type
		the value set by P08-09.	③ Check whether the door close limit signal and the door lock signal are normal;	
E50	Consecutive loss of leveling signals	Subcode 1: Leveling signal stuck is detected for three consecutive times. Subcode 2: Leveling signal loss is detected for three consecutive times.	① Check whether the leveling and the door zone sensors work properly; ② Check the verticality and the depth of the leveling plate installation; ③ Check the leveling signal input points of the MCB; ④ Check whether the steel rope slips;	5A
E51	CAN communication abnormal	Subcode 1: The feedback data with the CTB via the CAN communication remains incorrect.	① Check the communication cable connection; ② Check the power supply of the CTB; ③ Check whether the 24 V power supply of the controller is normal; ④ Check whether there is high-voltage interference with communication;	1A
E52	HOP communication fault	Subcode 1: The feedback data with the HOP via the Modbus communication remains incorrect	① Check the communication cable connection; ② Check whether the 24 V power supply of the controller is normal; ③ Check whether the HOB addresses overlap; ④ Check whether there is high-voltage interference with communication;	1A
E53	Door lock fault	Subcode 1: The door lock feedback signal remains active 3 s after the door open output, with the shorting door lock circuit output withdrawn. Subcode 2: The signal status of the door lock multi-way feedback contacts are inconsistent, or the signal status of	① Check whether the door lock circuit is shorted; ② Check whether the door lock feedback is correct;	5A

Code	Description	Cause	Solution	Type
		door lock 1 and door lock 2 are inconsistent.		
		Subcode 5: Door lock 1 shorting signal is active upon shorting door lock circuit output 3 s after door open output.		
		Subcode 6: Door lock 2 shorting signal is active upon shorting door lock circuit output 3 s after door open output.		
		Subcode 4: The high-voltage and low-voltage door lock signals are inconsistent.	Check whether the high-voltage and the low-voltage door lock feedback signals are consistent; a fault will be reported if the deviation exceeds 1.5 s, and the subcode will be reset upon power off and power on again;	
		Subcode 7: The door lock shorting input is selected but the feedback signal remains off or disconnected.	Check whether the signal cable of door lock shorting feedback is damaged or not connected;	
E54	Overcurrent at inspection startup	Subcode 2: The current at the inspection startup exceeds 120% of the rated current.	① Reduce the load; ② Check whether the motor UVW phase sequence is correct; ③ Set Bit1 of PC.00 to 1 to cancel the startup current detection function;	5A
E55	Fault of landing at another floor	Subcode 1: When the door opens in automatic running, no door open limit signal is received after the door open protection time defined by P08-07.	Check the door open limit signal of the current floor;	1A
E56	Door open/close	Subcode 1: The door open	① Check the NO/NC setting of the door	5A

Code	Description	Cause	Solution	Type
	signal fault	limit signal is active during running.	open/close signal; ② Check the wiring of the door open/close signal;	
		Subcode 2: The door close limit signal is inactive during running.		
		Subcode 3: The door open and close limit signals are active at the same time.		
		Subcode 4: The door close limit signal remains active 3 s after door open. This fault subcode is detected after the door lock bypass is set.	Check whether the door close limit signal remains active;	
E57	SPI communication fault	Subcode 1 to 2: Abnormal communication between the control board and the drive board.	Check whether the cable connection between the control board and the drive board is normal;	5A
		Subcode 3: The MCB does not match the AC drive.	Contact the agent or manufacturer;	
E58	Shaft position switch abnormal	Subcode 1: The up and down slowdown switches are disconnected simultaneously.	① Check whether the signal status (NO/NC) of the slowdown switches and the limit switches are consistent with the MCB parameter settings; ② Check whether any malfunction exists in the slowdown switches and the limit switches;	4B
		Subcode 2: The upper limit feedback and the lower limit feedback are disconnected simultaneously.		
E59	Reserved	Reserved	Reserved	-
E60	Reserved	Reserved	Reserved	-
E61	Reserved	Reserved	Reserved	-
E62	Analog input	Subcode 1: The load cell	① Check whether the load cell analog	3B

Code	Description	Cause	Solution	Type
	disconnected	analog input is disconnected.	input (P10-00) is set correctly; ② Check whether the analog input cable of the CTB or MCB is connected correctly; Check whether a disconnection exists; ③ Adjust the load cell switch function;	
E64	Reserved	Reserved	Reserved	5A
E65	UCMP detection abnormal	This fault is reported when the UCMP function detection is enabled, or an accidental car movement occurs.	Confirm that the brake is applied completely and that no accidental car movement exists;	5A
E66	Braking force detection abnormal	This fault is reported when the braking force detected is insufficient.	Check the brake clearance;	5A
E69	Reserved	Reserved	Reserved	
E70	Shorting motor stator detection fault	Subcode 1: The speed exceeds the limit in the shorting motor stator rollback mode.	Check the shorting motor stator contactor;	5A
		Subcode 2: Integrated shorting motor stator contactor detection is abnormal.	Check the shorting motor stator contactor.	5A

8.3 Fault signal and countermeasures

If there is a fault alarm message from the integrated controller, corresponding actions will be taken based on the level of the fault code. At the same time, users can conduct the fault diagnosis according to the information provided in this section, identify the cause of the fault, and find a solution.

Chapter 9 Care and Maintenance

9.1 Daily inspection

The elevator control cabinet is a major component in an elevator system. The maintenance and repair shall be implemented in strict accordance with local laws, regulations, and industrial requirements.

9.1.1 Items for daily inspection

☐ √	No.	Item
☐	1	Check for any abnormal noise during motor running.
☐	2	Check for any excessive vibrations during motor running.
☐	3	Check for any changes in the environment where the control cabinet is installed.
☐	4	Check whether the control cabinet overheats.
☐	5	Check whether the electrical components of the cabinet work properly.
☐	6	Check for any condensation on the surface of the control cabinet.
☐	7	Check for any loose screws in the cabinet interior.
☐	8	Check for any abnormal noise of the internal contactors during elevator running.

9.1.2 Items for daily cleaning

☐ √	No.	Item
☐	1	Clean the control cabinet on a regular basis.
☐	2	The IP rating of the control cabinet is IP20; pay attention to the water and dust protection during cleaning.
☐	3	Effectively remove the dust from the surface of the control cabinet to prevent the dust from entering the interior.

9.2 Routine maintenance

Regular maintenance mainly targets the areas that are difficult to inspect during daily maintenance and daily operations.

9.2.1 Items for routine maintenance

☐ √	No.	Item
☐	1	Check for any loose screws.
☐	2	Check for any scratches on the terminals.
☐	3	Check whether the electrical components of the cabinet work properly.
☐	4	Check for any bare/exposed part on the internal cables of the control cabinet.

9.2.2 Replacement of quick-wear parts

The quick-wear parts in the control cabinet mainly include transformer fuses, protector fuses, air switches, etc. Additional fuses are provided in the control cabinet to prevent fuse damage in case of emergencies.

The general service life of air switches and contactors is 2 to 3 years. Users can conduct the replacement of quick-wear parts based on their lifespan and actual performance in operation.

Replacement of batteries

Disassembly Steps:

1. Cut the cable ties that secure the battery pack cables;

2. Loosen the fastening screws at the connection of the battery pack cable terminal using a small straight screwdriver, and disconnect the terminal;

3. Remove the two M4×8 screws of the rack using a Phillips screwdriver, and remove the assembly of the battery pack and the rack;

4. Take out the battery pack from the rack (the battery pack is embedded in the rack).

Chapter 10 Options

10.1 List of options

If any of the following optional components is needed, please specify when ordering.

Table 10-1 List of options

Name	Model	Function
Integrated car top box	Smile3000-CTH-D02	Integration of car top lighting, inspection control, car top control and standard option of intermediate relay for manual door.
Car control board	Smile3000-CCB-C	Integration of 485 communication expansion interface, 16-floor inputs, and door open/close control; IC card expansion available; voice announcement available.
	Smile3000-CCB-D	Integration of 485 communication expansion interface, 5-floor inputs, and door open/close control; IC card expansion available. Note: voice announcement is not supported.
Display board	Smile3000-HCB-R1	HCB

10.2 Integrated car top box Smile3000-CTH-D02

The integrated car top box Smile3000-CTH-D02 is specially engineered for use in home elevators. In addition to common elevator control functions, this car top box further expand its functionality with manual door relay, car top slowdown signal input, car top final limit signal input, and signal input of the home elevator dedicated mechanical stop device. The appearance and dimensions are illustrated below:

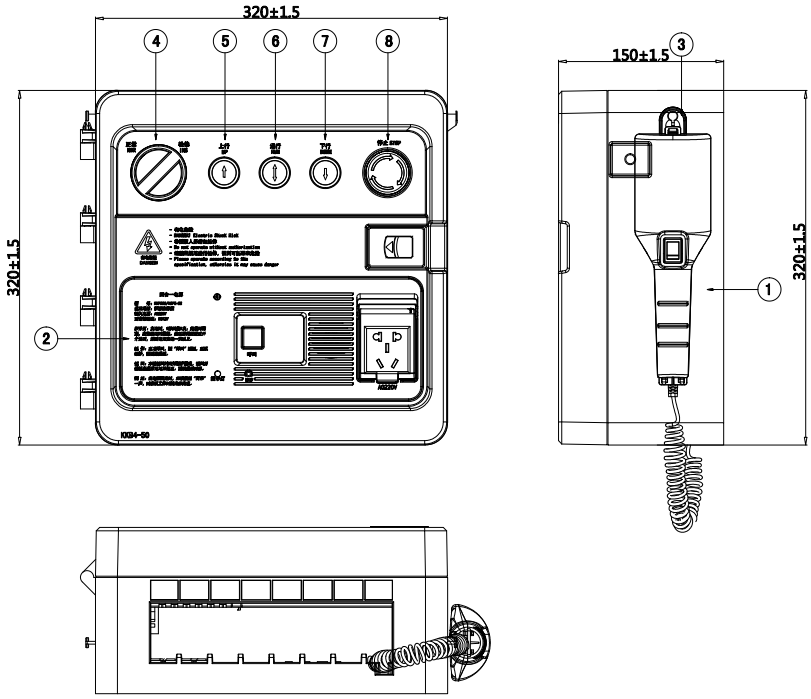


Fig. 10-1 Smile3000-CTH-D02 appearance and dimensions (unit: mm)

The control center of Smile3000-CTH-D02 is comprised of a control board Smile300-CTB-C and an interface board Smile3000-JTB-A. The terminal layout of Smile3000-JTB-A is illustrated below:

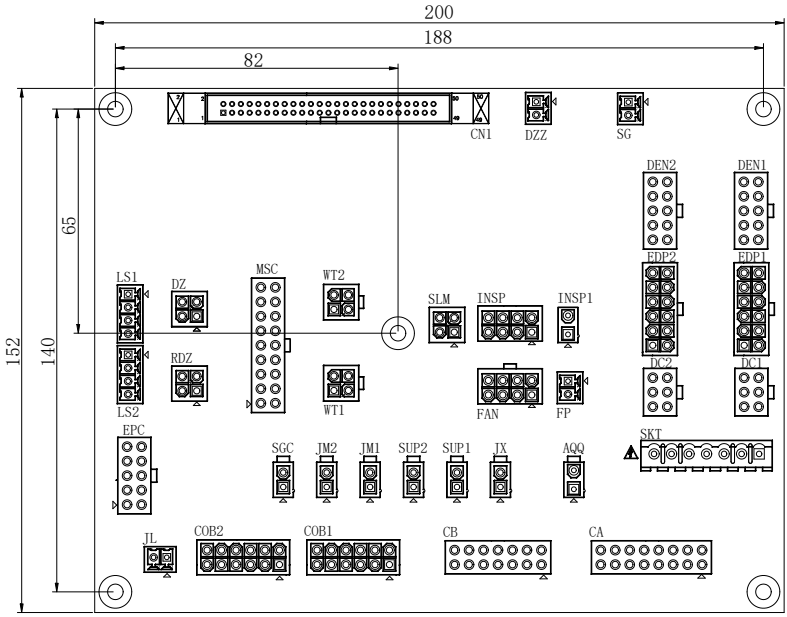


Fig. 10-2 Smile3000-JTB-A terminal layout

Table 10-2 Smile3000-JTB-A terminal definition and description

Terminal	Definition	Description
CN1	2*25 pin box header connector	Connected with Smile3000-CTB-C for input/output interaction and control signal communication.
DZZ	Arrival gong signal	Connected with 24 V DC arrival gong device; Y7 relay output; 24 V DC level for DZZ; 302 for 24 V negative.
SG	Sound and light alarm signal	Connected with 24 V DC sound and light alarm device; Y9 relay output; 24 V DC level for SGZ; 302 for 24 V negative.
LS1	Level-1 slowdown signal	301 for +24 V DC power supply; X15 for level-1 up slowdown; X16 for level-1 down slowdown; for use when the slowdown switches are installed on the car top.
LS2	Level-2 slowdown signal	301 for +24 V DC power supply; X17 for level-2 up slowdown; X18 for level-2 down slowdown; for use when the slowdown switches are installed on the car top and the running speed ⩾1.5m/s.

Terminal	Definition	Description
DZ	Leveling signal	301 for +24 V DC power supply; 302 for 24 V negative; X19 for up leveling signal; X20 for down leveling signal; for use when the leveling signal device is installed on the car top; only one leveling signal is used in home elevators.
RDZ	Door zone signal	301 for 12 V: 24 V or 12 V power supply; 20 V DC power supply in normal situations; 12 V DC emergency power supply when the main power supply is cut off; 302 for 24 V negative; FL1 corresponding to MCB X1; FL2 corresponding to MCB X2 (FL2 is not used in home elevators); 302 for 24 V negative.
MSC	Magnetic grating ruler safety box terminal signal	For use when a magnetic grating ruler is used; when it is not used, it is required to short the safety circuit 127 and 128; CAN+, CAN-, 301 (24 V DC), 302 (0 V), DC12 (12 V DC) for communication and power supply; ZDI for door zone signal output by magnetic grating ruler; 102 for safety circuit negative; 127 and 128 for magnetic grating ruler safety switch; 130 for door lock safety circuit end; 132 and 134 for rear door safety circuit (for home elevator use).
WT1	Digital full-load and overload signal	301 for 24 V DC; 302 (0 V) for power supply; X21 for overload signal; X22 for full-load signal; for use when the digital full-load / overload signal device is installed on the car top.
WT2	Analog load cell signal	301 for 24 V DC; 302 (0 V) for power supply; VI for analog load cell signal; X23 for backup input signal; for use when the analog load cell is installed on the car top.
SLM	Home elevator manual door switch	For use when a car manual door exists in home elevator; 24 V manual door relay output terminal; 303 for Y8 relay output, 24 V DC; 302 (0 V) for power supply; X24 for backup input signal.
INSP	Car top inspection	301 for +24 V power supply; X12 for inspection NC signal; X13 for inspection up running signal; X14 for inspection down running signal; 124, 125, and 127 for inspection-related safety circuits.
INSP1	Car top inspection safety NO contact	160 and 161 for car top inspection NO contact; connection allowed upon car top priority (not for home elevators).
FAN	In-car lighting and fan power supply	508 for 220 V AC negative; 509 for 220 V AC in-car fan terminal (Y11 for energy-saving control); 510 for 220 V AC in-car lighting power supply terminal (Y10 for energy-saving

Terminal	Definition	Description
		control).
FP	In-car fan overheat protection	301 for 24 V power supply; X11 for fan overheat input (connection allowed when thermal protection exists).
SKT	Car top lighting, car top socket	507 for 220 V AC; 508 for 220 V AC negative; PE for grounding protection
EPC	Emergency 12 V DC, 12 V lighting; five-way intercom	507 for 220 V AC; 508 for 220 V AC power supply negative input; PE for grounding protection; DC12 for 12 V DC input; 302 for 12 V DC negative; C01 for five-way communication L; C02 for five-way communication R; E12V for emergency 12 V lighting input.
AQQ	Safety gear electrical safety circuit	123 for safety circuit input; 124a for safety circuit output.
JX	Final limit switch electrical safety circuit	124a for safety circuit input; 124 for safety circuit output; for use when the final limit switch is installed in the car; short the switch when the final limit switch is installed in the shaft.
SUP1	Backup safety switch 1	Backup safety switch 1 for use as car top safety switch for car top auxiliary stop and car top safety window; short the switch when not needed.
SUP2	Backup safety switch 2	Backup safety switch 2 for use as car top safety switch for car top auxiliary stop and car top safety window; short the switch when not needed.
JM1	Car door 1 door lock safety circuit	130 for car door lock input; 130A for car door lock output.
JM2	Car door 2 door lock safety circuit	133 for car door lock input; 134 for car door lock output; not for home elevator use, and no need to be shorted.
SGC	Auxiliary car door lock safety circuit signal	SGC1 for door lock input; SGC2 for door lock output; for use when asynchronous motor UCMP function is enabled; no need to be shorted when not in use.
CA	Traveling cable A	220 V AC high-voltage power supply and safety circuit; 207 for 220 V AC; 208 for 220 V AC negative (door machine 220 V AC power supply); 507 for 220 V AC; 508 for 220 V AC negative; PE for grounding protection (lighting and fan power supply, emergency power supply);

Terminal	Definition	Description
		123, 125, 130, 131A, 132, 133, 134, 160, and 161 for safety circuit (home elevators adopt 24 V DC for safety circuit, and standard elevators adopt 110 V AC for safety circuit).
CB	Traveling cable B	SGC1 for door lock input; SGC2 for door lock output safety circuit; 102 for safety circuit negative; FL1 for up leveling signal; FL2 for down leveling signal (FL2 is not used in home elevators); ZDI for magnetic grating ruler door zone signal; C01 and C02 for five-way intercom; 301 (24 V DC) and 302 (0 V) for 24 V power supply; DC12 for 12 V DC power supply; CAN+ and CAN- for CAN communication.
COB1	Car call 1	301 (24 V DC), 302 (0 V), RS485+, and RS485- for 485 communication (power supply and communication); E12V for emergency output of 12 V DC power supply; DC12V for 12 V DC power supply; DC1201 for alarm signal input; C01 and C02 for five-way communication signal.
COB2	Car call 2	301 (24 V DC), 302 (0 V), RS485+, and RS485- for 485 communication (power supply and communication); E12V for emergency output of 12 V DC power supply; DC12V for 12 V DC power supply; DC1201 for alarm signal input; C01 and C02 for five-way communication signal.
JL	Alarm signal	302 for 12 V DC power supply negative; DC1201 for alarm signal input.
DEN1	Door machine 1 input/output signal	301 for 24 V DC power supply; X1 for door open limit signal; X2 for door close limit signal; X3 for door machine overheat protection signal; B1 for door open command output signal; B2 for door close command output signal; B3 for forced door close output signal; BM for common terminal of output.
DEN2	Door machine 2 input/output signal	301 for 24 V DC power supply; X6 for door open limit signal; X7 for door close limit signal; X8 for door machine overheat

Terminal	Definition	Description
		protection signal; C1 for door open command output signal; C2 for door close command output signal; B3 for forced door close output signal; CM for common terminal of output.
EDP1	Door machine 1 input signal and light curtain power supply	301 for 24 V DC power supply; 302 for 24 V DC power supply negative; X4 for light curtain input signal; X5 for safety edge input signal; 207 for 220 V AC; 208 for 220 V AC negative; PE for grounding protection (light curtain 220 V AC power supply).
EDP2	Door machine 2 input signal and light curtain power supply	301 for 24 V DC power supply; 302 for 24 V DC power supply negative; X9 for light curtain input signal; X10 for safety edge input signal; 207 for 220 V AC; 208 for 220 V AC negative; PE for grounding protection (light curtain 220 V AC power supply).
DC1	Door machine 1 power supply	207 for 220 V AC; 208 for 220 V AC negative, PE for grounding protection (door machine 220 V AC power supply).
DC2	Door machine 2 power supply	207 for 220 V AC; 208 for 220 V AC negative, PE for grounding protection (door machine 220 V AC power supply).

10.3 Car control board

10.3.1 Car control board Smile3000-CCB-C

The car control board Smile3000-CCB-C supports maximum 16-floor inputs, and employs 28-button inputs, 20 button outputs, an intercom, and a 485 communication port.

The Smile3000-CCB-C communicates with the CTB via Modbus communication, and adopts the same Modbus protocol with the HOP. If the a dedicated protocol is used in the client's elevator HOP, the same dedicated protocol shall be used with the Smile3000-CCB-C; otherwise, communication with the CTB is not available.

The Smile3000-CCB-C appearance, dimensions, and terminal layout are illustrated below:

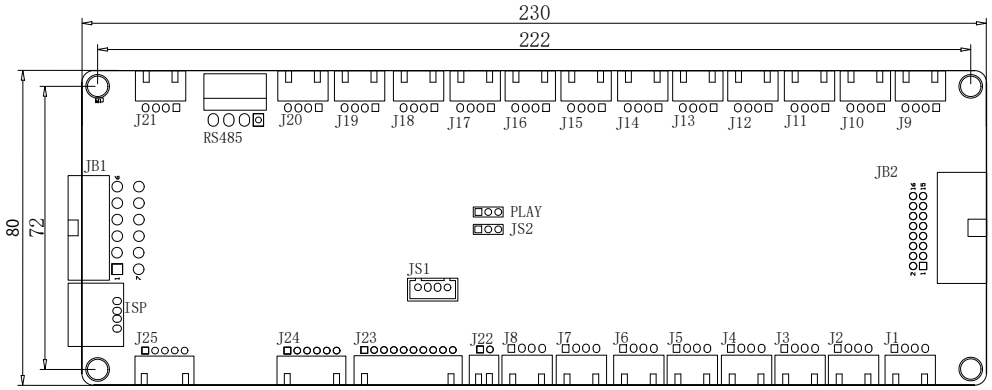


Fig. 10-3 Smile3000-CCB-C terminal layout (unit: mm)

Table 10-3 Smile3000-CCB-C terminal definition and description

Terminal	Pin	Name	Description	Function
J1 to J20	-	J1 to J20	Pin 1: +24 V DC internal power supply Pin 2: +24 V DC internal power supply Pin 3: Button input Pin 4: Indicator output	Button input socket
J21	1	TL+	Intercom power supply positive connection	Intercom connection terminal
	2	COM	Intercom power supply negative connection	
	3	DR	Intercom signal	
	4	DL	Intercom signal	
J22	1	YY+	External speaker positive	Voice announcement speaker
	2	YY-	External speaker negative	
J23	1	+24VDC	+24 V DC internal power supply	Multi-functional input
	2	X4	Multi-functional input 4	
	3	+24VDC	+24 V DC internal power supply	

Terminal	Pin	Name	Description	Function
	4	X5	Multi-functional input 5	
	5	+24VDC	+24 V DC internal power supply	
	6	X6	Multi-functional input 6	
	7	+24VDC	+24 V DC internal power supply	
	8	X7	Multi-functional input 7	
	9	+24VDC	+24 V DC internal power supply	
	10	X8	Multi-functional input 8	
J24	1	+24VDC	+24 V DC internal power supply	
	2	X1	Multi-functional input 1	
	3	+24VDC	+24 V DC internal power supply	
	4	X2	Multi-functional input 2	
	5	+24VDC	+24 V DC internal power supply	
	6	X3	Multi-functional input 3	
J25	1	EL+	Emergency lights positive	Emergency lights and alarm button connection terminal
	2	COM	Emergency lights negative	
	3	AL+	Alarm button input	
	4	JL	Alarm button output	
	5		Reserved for foolproof purpose	
RS485	1	+24V	+24 V DC power supply	RS485 device connection terminal
	2、3	RS485+/-	MOD communication (RS485+/-)	
	4	0V	Power supply negative	
PLAY	1	GND	Power supply ground	Announcement test

Terminal	Pin	Name	Description	Function
	2	TEST	Announcement test signal	shorted pin
TF Micro SD	-	Slot	Installation of announcement Micro SD card	TF Micro SD card slot for installation of announcement Micro SD card

10.3.2 Car control board Smile3000-CCB-D

Smile3000-CCB-D is a small-size car control board, supporting 5-floor inputs, door open/close input, door open delay input, lighting and fan switch input, and arrival gong output.

Note:

Smile3000-CCB-D does not support voice announcement or control of disability operating panel.

The Smile3000-CCB-D communicates with the CTB via Modbus communication, and adopts the same Modbus protocol with the HOP. If the a dedicated protocol is used in the client's elevator HOP, the same dedicated protocol shall be used with the Smile3000-CCB-D; otherwise, communication with the CTB is not available.

The appearance, dimensions, and terminal layout are illustrated below:

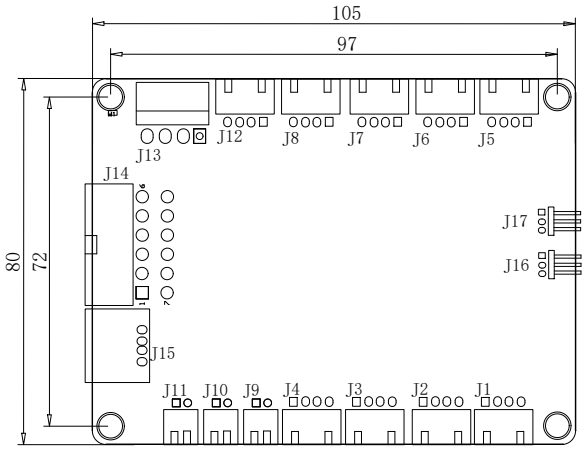


Fig. 10-4 Smile3000-CCB-D dimensions and terminal layout (unit: mm)

Table 10-4 Smile3000-CCB-D terminal definition and description

Terminal	Pin	Name	Description	Function
J1 to J8	1	24V	24 V DC internal power supply	Button input terminal J1 to J5 for button input J6 for door open button input J7 for door close button input J8 for door open delay input
	2	24V	24 V DC power supply	
	3	AN	Button input	
	4	LAMP	Indicator output	
J9 to J10	1	24V	24 V DC power supply	Multi-functional input terminal
	2	X1, X2	24 V digital input	
J11	1	E12	12 V DC emergency power supply	Emergency lighting terminal
	2	0V	0 V power supply negative	
J12	1	DL	Communication signal L	Five-way communication terminal
	2	DR	Communication signal R	
	3	0V	0 V power supply negative	
	4	DC12	12 V DC power supply	
J13	1	0V	0 V power supply negative	RS485 device connection terminal
	2	MOD-	485 communication MOD-	
	3	MOD+	485 communication MOD+	
	4	24V	24VDC power supply	
J14	1	0V	0 V power supply negative	CTB connection terminal
	2	MOD-	485 communication MOD-	
	3	-	-	
	4	-	-	
	5	RCO	Communication signal R	
	6	0V	0 V power supply negative	
	7	24V	24 V DC power supply	
	8	MOD+	485 communication MOD+	
	9	E12	12 V DC emergency power	

Terminal	Pin	Name	Description	Function
			supply	
	10	DC12	12 V DC power supply	
	11	LCO	Communication signal L	
	12	DC12	12 V DC power supply	
J15	-	USB burning terminal	-	RS485 device connection terminal
J16	1	BOOT	Software burning pull-up	Short Pin 1 and Pin 2 when burning software; put mini jumper on Pin 2 and Pin 3 when not burning.
	2	3.3V	Internal power supply 3.3 V	
	3	-	-	
J17	1	S1	Function selection 1	For front door control board when the mini jumper is not shorted; For rear door control board when Pin 1 and Pin 2 are shorted; For multi-functional board (function setting available) when Pin 2 and Pin 3 are shorted.
	2	3.3V	Internal power supply 3.3 V	
	3	S2	Function selection 1	

10.4 Display board Smile3000-HCB-R1

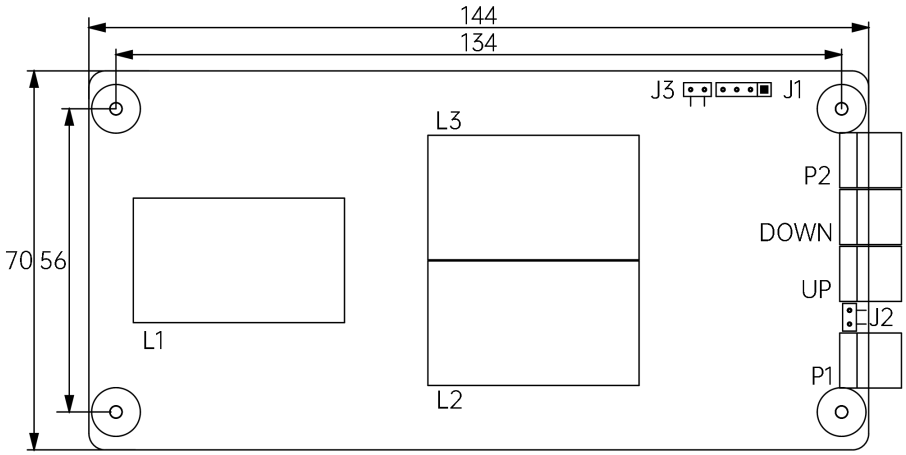
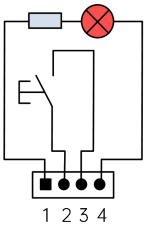
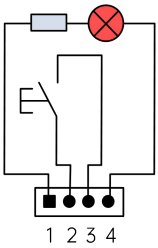
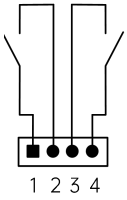
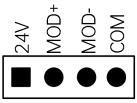


Fig. 10-5 Smile3000-HCB-R1 appearance and dimensions (unit: mm)

Table 10-5 Smile3000-HCB-R1 terminal function description

Terminal	Definition	Wiring
UP	Up running call button terminal: Pin 2 and Pin 3 are for digital input wiring (up running button switch control); Pin 1 and Pin 4 are for power supply cable (up running button indicator). (24 V DC output, load capacity 40 mA)	
DOWN	Down running call button terminal: Pin 2 and Pin 3 are for digital input wiring (down running button switch control); Pin 1 and Pin 4 are for power supply cable (down running button indicator). (24 V DC output, load capacity 40 mA)	
P2	Fire emergency and elevator lockout switch terminal: Pin 1 and Pin 2 are for elevator lockout input; Pin 3 and Pin 4 are for fire emergency input.	
J1	For floor address setting: Short J1, and press the up/down call button to set the floor address; take off the mini jumper to save the set addresses (range from 0 to 48).	
P1	Modbus communication and power supply cable 4-pin terminal; Pin 2 and Pin 3 are for Modbus communication cable; Pin 1 and Pin 4 are for power supply cable.	

Chapter 11 Applications

11.1 Emergency rescue function

This control cabinet provides multiple safety functions, including intelligent automatic emergency rescue, automatic emergency rescue at power failure, emergency rescue using an electric brake release device, and one-key remote emergency rescue. The following sections describe the application scenarios of each function.

11.1.1 Intelligent automatic emergency rescue

In case a fault occurs during elevator running and results in car stop in non-door zone, the control cabinet automatically analyses and troubleshoots the fault. Under the premise of ensuring safety, the system drives or automatically releases the brake to rescue passengers. The elevator runs at a low speed in the light-load direction to the leveling position. After reaching the door zone, the elevator automatically opens the door to let passengers out. To prevent the elevator from starting again, the elevator closes the door and stops service after the evacuation finishes.

The brake cannot be released or the motor stator cannot be shorted when E13/E29/E36/E37/E41/E42 occurs. In this case, the intelligent automatic emergency rescue cannot be performed.

11.1.2 Automatic emergency rescue at power failure

If the mains power supply fails during elevator running, the ARD will be activated. The elevator runs at a low speed in the light-load direction to the leveling position. After reaching the door zone, the elevator automatically opens the door to let passengers out. The system is powered off 15 s after the door close limit signal is activated. The elevator door can be opened again if the door open button is pressed within 15 s after door close.

The emergency rescue modes and the settings of related parameters are as follows:

Parameter setting for emergency rescue of elevators with synchronous motor: P12-06=1; ARD drives the elevator to run at a low speed; when the car arrives in door zone, the system opens the door to let passengers out.

11.1.3 Operations of the electric brake release device

The electric brake release function is used in the state when the main switch on the operating panel is disconnected and the power supply of the control cabinet is completely cut off. The ARD system must be activated manually. Hold down the electric brake release start button on the operating box for 5 s to activate the internal circuit and energize the ARD system. Then, press brake release 1 and brake release 2 buttons and hold for 10s. The electric brake release circuit outputs, the brake of the traction machine is

released, and the elevator runs at a low speed in the light-load direction. (The brake remains released when the brake release buttons are held down.)

In the process of brake release, the brake is closed automatically and the elevator stops after the door zone arrival signal becomes active. If brake release 1 and brake release 2 buttons are pressed again at this moment, the brake will be released again. The battery exits the working state 3 min after the brake release operation finishes. The brake release starts again whenever the brake release buttons are pressed within the 3 min.

Note:
If the elevator still needs to enter the shorting stator braking mode when the car is already in the door zone, hold down the brake release 1 and brake release 2 buttons on the operating box simultaneously to let the car move to the new door zone after the ARD system is activated. Other operations are the same as those in the non-door zone.


Caution

The electric brake release function must be performed by qualified personnel only. After any one of the electric brake release buttons is pressed, the other button must be pressed within 1 s. Otherwise, release the buttons and press them again.

11.2 Car top lighting/fan operating box control

Automatic lighting/fan control

Lighting and fan are not controlled by external switches. In non-energy-saving mode, the lighting/fan function is enabled; in energy-saving mode, the system outputs lighting/fan relay signal (NC relay), and the lighting/fan function is disabled.

External switch lighting/fan control

Lighting and fan are controlled respectively by two independent external switches. When these switches are enabled, the lighting/fan function is enabled. In case no external switches exist, conduct the lighting/fan control via the NO/NC setting of the lighting switch input and the fan switch input. In this mode, the lighting/fan output will not be cut off when the energy-saving time starts.

Function code	Name	Value	Default
P12.14	bit5: Lighting/fan control mode	0: Lighting/fan controlled by external switches 1: Lighting/fan not controlled by external switches	The parameter is set to 1 (Lighting/fan not controlled by external switches); during non-energy-saving time, the lighting/fan function is enabled; during energy-saving time, the function will not be disabled.

11.3 Elevator lockout function

11.3.1 Function description

The elevator lockout function is provided by default. Part of the function can be modified via parameter resetting.

The elevator lockout function is described as follows:

(1) The car returns to the lockout parking floor after all the registered car calls are finished;

(2) When reaching the lockout parking floor, the door opens and closes before suspending the service;

(3) When the service is suspended, all the hall call display is turned off, and the in-car lighting and fan are turned off.

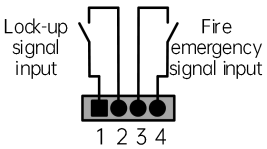
11.3.2 Operations

Elevator lockout input mode and setting

In normal situations, the lockout signal is input via the lockout switch on the HCB of a random floor. In case the signal is input via MCB, please conduct the parameter setting based on the description in the following table (take the input point X21 as an example).

Method One: lockout signal input via HOP

Table 11-1 Lockout signal input via HOP

HOP	Terminal	Function definition	Terminal wiring
Smile3000-HCB-R1	XF/ST	Terminal for fire emergency switch and elevator lockout switch: Pin 1 and Pin 2 are for elevator lockout signal input; Pin 2 and Pin 3 are for fire emergency signal input.	

Method Two: lockout signal input via MCB

Parameter	Function	Range	Default
P06	MCB input function selection	28: Elevator lockout NO input	28

11.3.3 Related parameters

Parameter	Function	Range	Default
P11-11	Parking floor for elevator lockout	P11-07 to P11-06	1
P11-47	Elevator lockout start time	00.00 to 23.59	0
P11-48	Elevator lockout end time	00.00 to 23.59	0
P11-49	Program control selection 1	Bit5: Timed lockout	0
P11-50	Program control selection 2	Bit8: Lockout at door open Bit9: Lockout with display Bit10: Lockout in the attendant mode	0
P11-51	Program control selection 3	Bit5: Clearing calls immediately at elevator lockout	0

Elevator lockout input mode and setting:

Generally, the elevator lockout signal is input using the elevator lockout switch on the HCB of a random floor. In case the signal is input via MCB, please conduct the parameter setting based on the description in the above table.

11.4 Full-load/Overload Function

11.4.1 Function description

Overload:

(1) The buzzer tweets;

(2) The door can not be closed even upon pressing the door close button;

(3) In-car display of overload indication "OL" or "OVERLOAD";

(4) The full-load indication "FL" is displayed in the hall.

Full-load:

(1) The full-load indication "FL" is displayed in the hall;

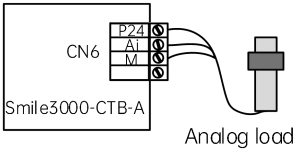
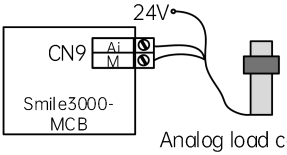
(2) Elevator car calls operate normally;

(3) The elevator supports registration of hall calls, but does not respond to them.

The elevator overload and full-load switches are classified into analog and digital types. The following part separately describes the parameter setting of the two types.

11.4.2 Wiring

Wiring and parameter setting of analog overload/full-load switches are explained as follows:

Type	Wiring diagram	Parameter
Analog signal connected to the CTB	Terminals P24 and M are connected to the positive and negative poles of the load cell power cable respectively, and terminal Ai is connected to the load cell signal cable. 	P10-00=2
Analog signal connected to the MCB	The system 24 V terminal is connected to the positive pole of the load cell power cable, terminal M is connected to the negative pole of the load cell power cable, and terminal Ai is connected to the load cell signal cable. 	P10-00=3

When the analog load cell switch is used, load cell auto-tuning must be performed; otherwise, the analog load cell switch cannot be used. Perform the overload/full-load auto-tuning as instructed in Fig. 11-1.

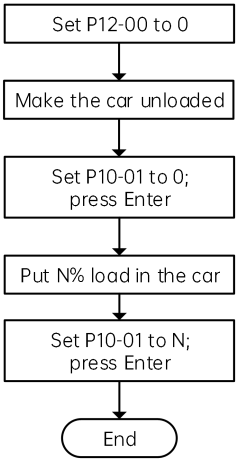


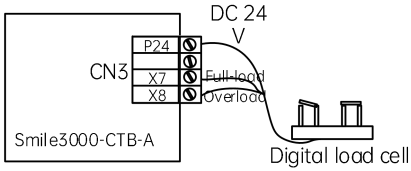
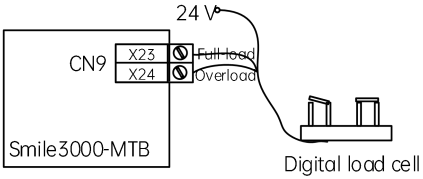
Fig. 11-1 Analog full-load/overload auto-tuning flowchart

P10-03 and P10-04 record the obtained no-load and full-load data respectively after the auto-tuning has been completed. Monitor the current load of the elevator by viewing P10-02. When the current load exceeds 110% of the rated load, the system reports an overload fault.

Caution

P10-02, P10-03 and P10-04 record the binary data indicating the car load condition rather than the actual car load or the ratio of the actual car load to the rated load.

Wiring and parameter setting of digital full-load/overload switches are explained as follows:

Type	Wiring diagram	Parameter
Digital signal connected to the CTB	The full-load signal and the overload signal must be connected to X7 and X8 respectively. 	P07-07=1 P07-08=108
Digital signal connected to the MCB	The full-load signal and the overload signal must be connected to X23 and X24 respectively. 	P06-23=5 P06-24=114

11.4.3 Related parameters

Parameters related to the full-load/overload auto-tuning of the analog load cell switches are described as follows:

Parameter	Name	Range	Description
P10-01	Car load ratio during load cell auto-tuning	0 to 100	Sets the car load ratio properly during analog load cell auto-tuning.
P12-00	Pre-torque selection	0: Disabled 1: Pre-torque enabled 2: Automatic compensation enabled 3: Zero-servo and load cell both enabled	Set this parameter to 0 before starting analog load cell auto-tuning.

Parameter	Name	Range	Description
P10-02	Current car load	0 to 255	Current car load display
P10-03	No-load measured by load cell	0 to 255	Auto-tuning no-load data recording
P10-04	Full-load measured by load cell	0 to 255	Auto-tuning full-load data recording

Parameter setting of the digital full-load/overload switches

Type	Parameter	Name	Range	Value
Setting of input type	P10-00	Load cell input selection	0: Disabled 1: Car call digital input 2: Car call Analog input 3: MCB analog input 4: Digital MCB digital input	0
MCB input	P6	Input function selection	0 to 199	14: Overload NO input 15: Full-load NO input An addition of 100 for NC input
CTB input	P7	Input function selection	0 to 199	7: Full-load input 8: Overload input 9: Light-load input An addition of 100 for NC input

Monitoring of the full-load/overload signal status is described as follows:

Check whether the full-load/overload signal is active via Bit15 of D02-00 of the MCB; the display of 1 indicates a system overload status.

11.5 Time-based Floor Service

11.5.1 Function description

This function is used to set the response of certain service floors to hall/car calls in certain periods.

11.5.2 Related parameters

Parameter	Name	Range	Default
P12-09	Elevator function selection	Bit8: Time-based serve floor selection	0
P11-28	Start time of time-based floor service 1	00.00 to 23.59	00.00
P11-29	End time of time-based floor service 1	00.00 to 23.59	00.00
P11-30	Service floor 1 of time-based floor service 1	0 to 65535	65535
P11-31	Service floor 2 of time-based floor service 1	0 to 65535	65535
P11-32	Service floor 3 of time-based floor service 1	0 to 65535	65535
P11-33	Start time of time-based floor service 2	00.00 to 23.59	00.00
P11-34	End time of time-based floor service 2	00.00 to 23.59	00.00
P11-35	Service floor 1 of time-based floor service 2	0 to 65535	65535
P11-36	Service floor 2 of time-based floor service 2	0 to 65535	65535
P11-37	Service floor 3 of time-based floor service 2	0 to 65535	65535

P11-28 to P11-37 set the time period and the corresponding service floors of two groups of time-based floor services.

During time periods other than that of these two time-based service groups, the elevator responds to the car/hall calls of the floors set by P11-15, P11-16, and P11-17. Details of the service floor setting are described below:

(1) Service floor 1 corresponds to the range of floor 1 to 16;

(2) Service floor 2 corresponds to the range of floor 17 to 32;

(3) Service floor 3 corresponds to the range of floor 33 to 48.

For example, during the time period of the time-based floor service 1 (P11-28, P11-29), the elevator responds to the car/hall calls of the floors set by the service floor 1, 2, and 3 (P11-30, P11-31, P11-32) of the time-based floor service 1; calls of the floors set by P11-15, P11-16, and P11-17 will not be responded.

The parameter setting method for the time-based floor service is the same with that of P11-15 service floor setting.

11.6 Running test

11.6.1 Function description

The running test parameters are set to facilitate the elevator commissioning and maintenance, including:

(1) Car/Hall call test;

(2) Random running test;

(3) Running test with certain functions disabled (hall call, door open, overload, and limit)

Before the normal-speed running test, ensure that the shaft is clear, and the safety circuits, door lock circuits, and shaft switches work normally.

11.6.2 Related parameters

Group P7 test parameters set on MCB

Parameter	Name	Range	Default
P17-00	Car call floor registered	0 to P11-06	0
P17-01	Up call floor registered	0 to P11-06	0
P17-02	Down call floor registered	0 to P11-06	0
P17-03	Test times	0 to 60000	0
P17-04	Hall call enable	0: Hall call enabled; 1: Hall call disabled.	0
P17-05	Door open enable	0: Door open enabled; 1: Door open disabled.	0
P17-06	Overload function selection	0: Overload running disabled; 1: Overload running enabled.	0
P17-07	Limit enable	0: Limit switch enabled; 1: Limit switch disabled.	0

Parameter setting is described below:

If P17-00 is set to 6, P17-01 is set to 3, and P17-02 is set to 5, it indicates that the floor with a car call registered is floor 6, the floor with an up call registered is floor 3, and the floor with a down call registered is floor 5. After the test references are set, the parameter settings remain effective until the parameters are changed to 0 or a power failure occurs.

If the test parameters are set via the keypad P-8, E88 will be displayed.

(1) P-1: Target floor input

After entering the P1 data menu via PRG/UP/SET button, the LED displays the smallest floor number (as

shown in the system function parameter table P11-07). Use UP button to set the target floor in the range from the smallest floor number to the biggest floor number. When the target floor is selected, press SET button to save the selection, and the elevator runs to the target floor. Meanwhile, the display changes to the P-0 data menu automatically.

(2) P-8: Test function

Enter the P-8 data menu via PRG/UP/SET button, and the LED displays 0. Other values include:

1	Hall call disabled
2	Door open disabled
3	Overload disabled
4	Limit switch disabled
6	Enter the slip test state
7	UCMP manual check
8	Manual check of the braking force

Press SET to save the settings, and the LED flashes E88, indicating that the elevator is currently in the test mode. Press PRG to exit the mode, and the value of P-8 will be reset to 0 automatically.

11.7 Anti-Nuisance Function

11.7.1 Function description

The system automatically compares the number of passengers in the car with the number of car calls registered. If there are excessive car calls, the system determines that nuisance exists and cancels all car calls. In this case, register car calls again correctly.

There are three judging methods:

(1) Nuisance judged by load cell. Analog load cell must be enabled to use this function. The system determines that nuisance exists when the number of car calls exceeds the number of passengers plus 3. Every passenger is calculated by 70 kg.

(2) Nuisance judged by light curtain. The system determines that nuisance exists when the light curtain does not act after the elevator stops in normal running for three consecutive times.

(3) Nuisance judged by light-load signal. If the light-load signal is active, the system determines that nuisance exists when the number of car calls exceeds 3.

11.7.2 Related parameters

Parameter	Name	Range	Default
P00-05	Rated load	300 to 9999	1000
P10-05	Anti-nuisance function	Bitt0: Nuisance judged by load cell (enable the analog load cell or the load cell switch to use this function) Bit1: Nuisance judged by light curtain Bit2: Nuisance judged by light-load signal	0

Set the rated elevator load properly. It is used in the anti-nuisance function.

The light-load signal is mainly used for the nuisance judging. Set P10-05 bit2 to 1 to select the mode of nuisance judged by light-load signal. A car load below 30% of the rated load is considered as light-load.

11.8 Accessibility Function

11.8.1 Function description

This function, which allows wheelchair passengers to use the elevator conveniently, is performed using the dedicated disability operating panel and the disability hall call panel.

(1) If a call is registered via the disability operating panel, the door open holding time will be extended;

(2) If a door open command is input via the disability operating panel, the door open holding time will be extended;

(3) If a hall call is registered via the disability hall call panel, the door open holding time will be extended.

11.8.2 Wiring

In-car disability operating panel:

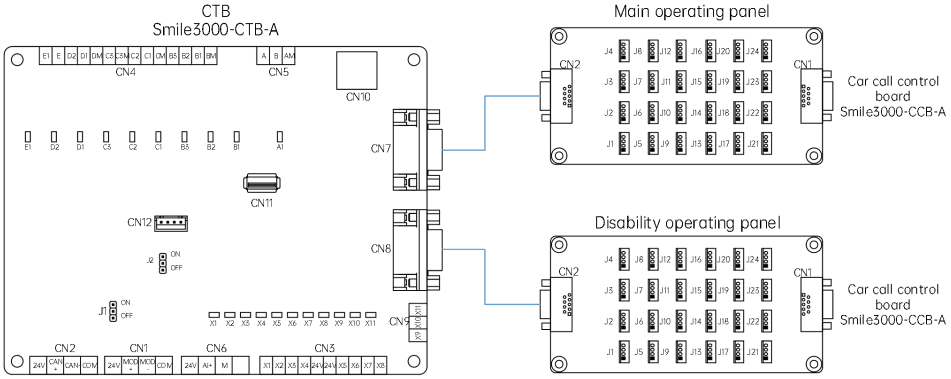


Fig. 11-2 Disability operating panel wiring diagram 1

Terminal CN8 serves as the interface for the disability operating panel (set Bit12 of P11.49 to enable the function).

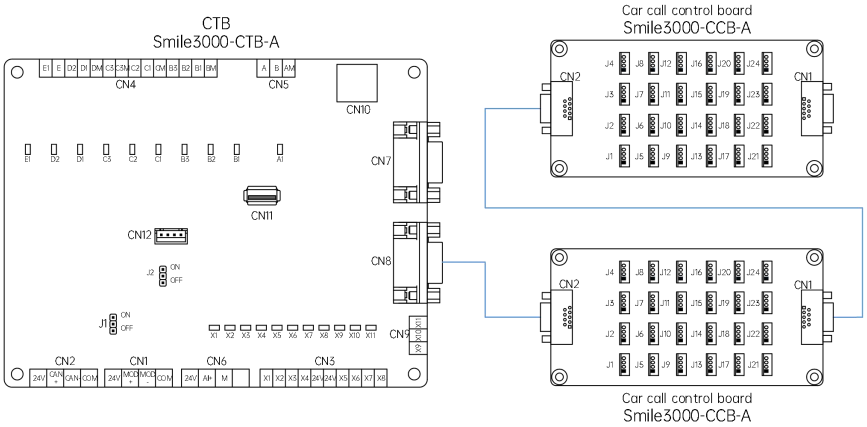


Fig. 11-3 Disability operating panel wiring diagram 2

Connect the disability operating panel to the rear end of the car call control board (set Bit13 and Bit14 of P11.49 to enable the function).

11.8.3 Related parameters

Parameter	Name	Range	Default
P11-49	Program control selection 1	Bit0: Accessibility function Bit12: Single-door car call auxiliary command terminal used for accessibility function Bit13: Duplicated commands used as accessibility function (1) and rear door function (0) Bit14: Car call command duplication	0
P08-15	Special door open holding time	10 to 1000	30

Definition of each bit in P11-49

Bit	Definition	Description
Bit0	Accessibility function	To enable the accessibility function for passengers with disabilities.
Bit12	Single-door car call auxiliary command terminal used for accessibility function	This parameter sets the CTB auxiliary command terminal CN8 as the input of disability call (command duplication is not required).
Bit13	Duplicated commands used as accessibility function and rear door function	To set the function of the duplicated commands (parameter valid only when Bit14 is valid): 1: accessibility; 0: rear door.
Bit14	Car call command duplication	Car call command duplication: A: When the parameter is invalid, CN7 is used for the front door or normal calls, and CN8 is used for the rear door or disability calls; B: When the parameter is valid, input 1 to input 16 of CN7 and CN8 are used for the front door or normal calls, and input 17 to input 32 of CN7 and CN8 are used for the rear door or disability calls.

P08-15 special door open holding time: this parameter sets the door open holding time for calls registered via the disability operating panel.

11.9 Double-door control solutions

(1) Scenarios

Apply the through-type door control when double-door control is required on-site.

(2) Solution description

The Smile3000 cabinet provides four modes of double-door control.

Table 11-2 Double-door control mode

Type	Door control mode	Description
Mode 1	Simultaneous control of front and rear doors	The front and rear doors act simultaneously upon car arrival.
Mode 2	Independent control for hall calls; simultaneous control for car calls.	Hall call: front door opens upon front door hall call; rear door opens upon rear door hall call. Car call: the front and rear doors act simultaneously upon car call.
Mode 3	Independent control for hall calls; manual control for car calls.	Hall call: front door opens upon front door hall call; rear door opens upon rear door hall call. Car call: door controlled by in-car switch; two door open modes include front door open only and rear door open only.
Mode 4	Independent control for both car calls and hall calls	Hall call: front door opens upon front door hall call; rear door opens upon rear door hall call. Carl call: front door opens upon front door car call; rear door opens upon rear door car call.

11.9.1 Through-type door control solution 1 (recommended)

(1) Wiring

① Car call control board wiring

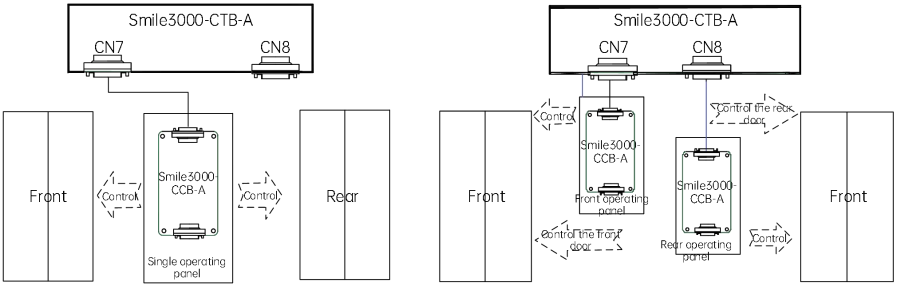


Fig. 11-4 Car call control board wiring diagram

② Instructions on hall call configuration

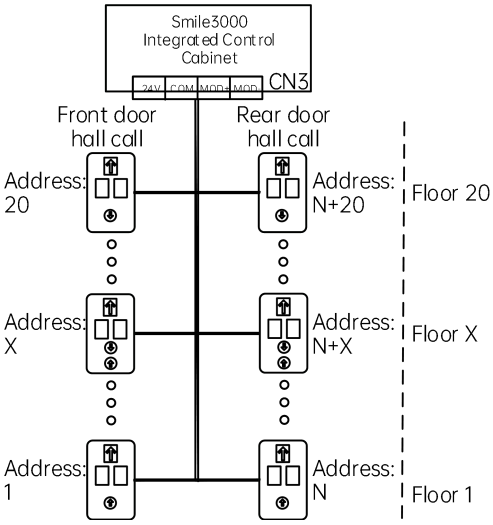


Fig. 11-5 Hall call configuration 1

(2) Related parameters

Mode	Door control mode	Parameter setting		Service floor	Control board wiring	Hall call address setting
		Mode selection	Other parameters			
Mode 1	Simultaneous control of front and rear doors	P08-20=0	P08-00=2 P09-04=N (N>P11-06)	20	Connect the front door control board to CN7 on CTB; Connect the rear door control	Front door hall call addresses: 1 to 20; Rear door hall call
Mode 2	Independent control for hall calls;	P08-20=1	Same as mode 1	20		

Mode	Door control mode	Parameter setting		Service floor	Control board wiring	Hall call address setting
		Mode selection	Other parameters			
	simultaneous control for car calls.				board to CN8 on CTB.	addresses: N to N+20.
Mode 3	Independent control for hall calls; manual control for car calls.	P08-20=2 P11-49 Bit4=1	Same as mode 1	20		
Mode 4	Independent control for both car calls and hall calls	P08-20=3	Same as mode 1	20		

Note:

Description of the in-car front/rear door control switchover setting in mode 3

① Button control

Connect the button to JP16 on the board, and set Bit2 of P11-49 to 1. When the button stays illuminated, only front door open is available; when the button is not illuminated, only rear door open is available.

② Switch control

Connect the switch to JP20 on the board, and set Bit15 of P11-49 to 1. When the JP20 switch is turned ON, only front door opens; when JP20 switch is turned OFF, only rear door opens.

11.9.2 Through-type door control solution 2

(1) Wiring

① Car call control board wiring

Control board wiring of mode 1/2/3 is shown as follows:

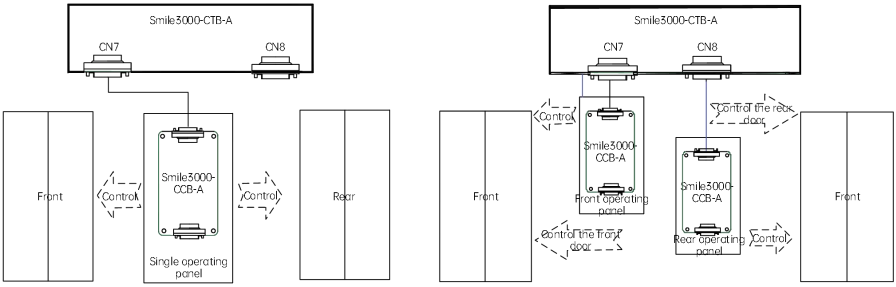


Fig. 11-6 Car call control board wiring diagram of mode 1/2/3

Control board wiring of mode 4 is shown as follows:

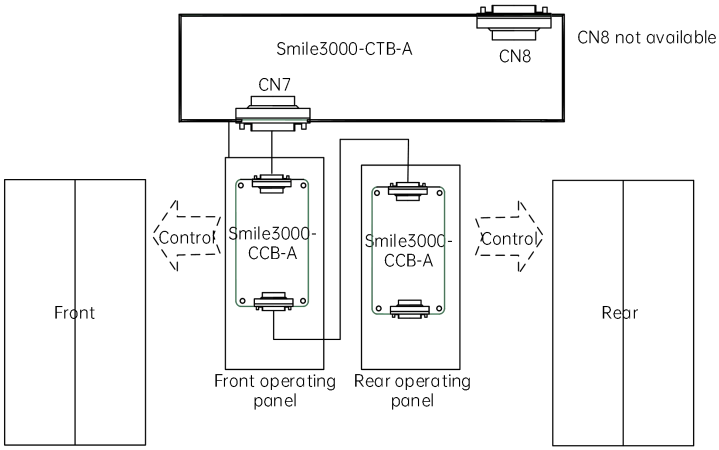


Fig. 11-7 Car call control board wiring diagram of mode 4

② Instructions on hall call configuration

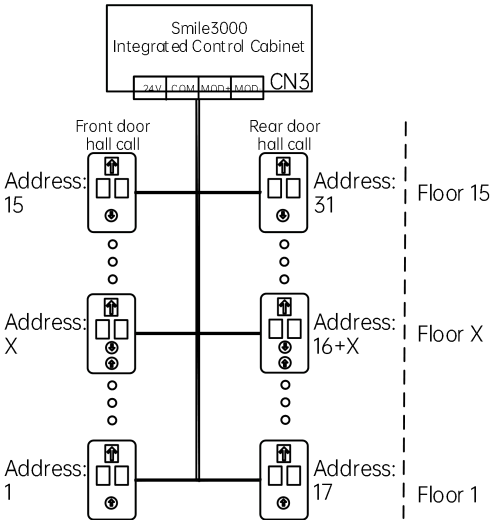


Fig. 11-8 Hall call configuration for 15-floor through-type elevator

Front door hall call addresses are set to 1 to 15; rear door hall call addresses are set to 17 to 31 (each with an addition of 16).

(2) Related parameters

<table>
<tr><th rowspan="2">Type</th><th rowspan="2">Door control mode</th><th colspan="2">Parameter setting</th><th rowspan="2">Service floor</th><th rowspan="2">Control board wiring</th><th rowspan="2">Hall call address setting</th></tr>
<tr><th>Mode selection</th><th>Other parameters</th></tr>
<tr><td>Mode 1</td><td>Simultaneous control of front and rear doors</td><td>P08-20=0</td><td>P08-00=2
P12-10 Bit15=1</td><td>15</td><td rowspan="3">Connect the front door control board to CN7 of the CTB;
Connect the rear door control board to CN8 of the CTB.</td><td rowspan="3">Front door hall call addresses: 1 to 15;
Rear door hall call addresses: 17 to 31.</td></tr>
<tr><td>Mode 2</td><td>Independent control for hall calls; simultaneous control for car calls.</td><td>P08-20=1</td><td>Same as mode 1</td><td>15</td></tr>
<tr><td>Mode 3</td><td>Independent control for hall calls; manual control for car calls.</td><td>P08-20=2
P11-49 Bit4=1</td><td>Same as mode 1</td><td>15</td></tr>
<tr><td>Mode 4</td><td>Independent control for both car calls and hall calls</td><td>P08-20=3</td><td>Same as mode 1</td><td>15</td><td>Connect the front door control board to CN7 of the CTB; connect the rear door control board to the rear of the front door control board.</td><td></td></tr>
<tr><td colspan="7">Note:
Description of the in-car front/rear door control switchover setting in mode 3
◆ Connect the switch to JP16 on the board. When JP16 is turned ON, only front door opens; when JP16 is turned OFF, only rear door opens.</td></tr>
</table>

11.10 Manual Door

(1) Wiring

Wiring of the door lock circuit:

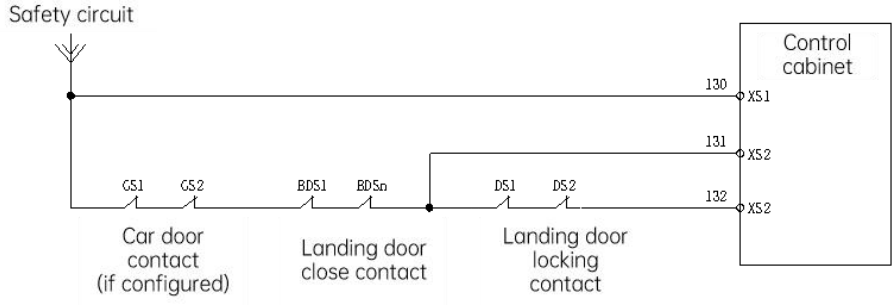


Fig. 11-9 Door lock circuit wiring diagram

Wiring of the electromagnetic lock control circuit:

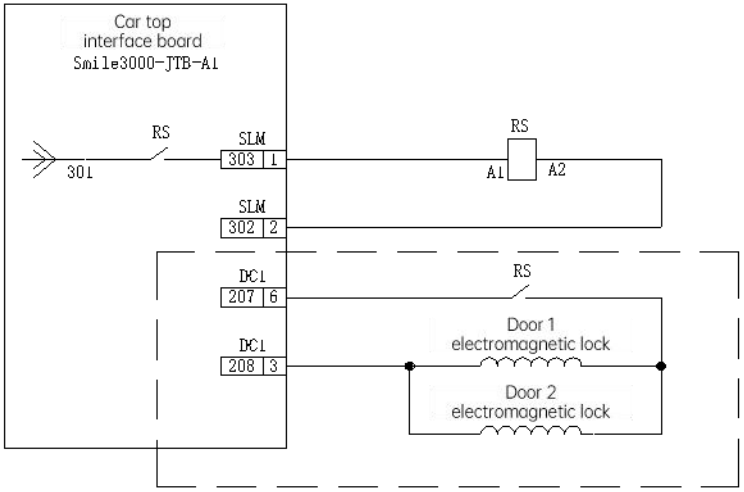


Fig. 11-10 Electromagnetic lock control circuit wiring diagram

(2) Parameter setting

Parameter	Value	Function	Remarks
P11-49	Bit6=1	Manual door function enabled	-
P06-26	5	Manual door close limit detection	X26 input function definition
P06-27	6	Manual door lock detection	X27 input function definition
P06-39	21	Car top electromagnetic lock output	Enable and use the car top SL relay for the electromagnetic lock output
P14-00	bit2=1	Decelerating to stop at valid	During normal-speed running, the elevator decelerates to stop

Parameter	Value	Function	Remarks
		light curtain	immediately when the light curtain is activated; it restarts and runs to the registered floor after the light curtain restores.

Appendix Warranty and Service

Megmeet rigorously adheres to the ISO 9001:2008 standard in manufacturing motor drive products. If any irregularities occur with our products, please contact the product supplier or the headquarters directly. Megmeet is committed to delivering comprehensive technical support services to all our clients.

1. Warranty period

The warranty period for the product is 18 months from the date of purchase, but not exceeding 24 months after the manufacturing date recorded on the nameplate.

2. Warranty scope

During the warranty period, any abnormalities arising from the responsibility of our company can be repaired or replaced free of charge by our company. However, a certain amount of repair charges may apply even within the warranty period under the following circumstances:

(1) Damage caused by fire, flood, severe lightning strikes, or similar reasons;

(2) Man-made damage caused by users' unauthorized modifications;

(3) Damage due to dropping or transportation after purchase;

(4) Damage caused by usage beyond the standard specifications or requirements;

(5) Damage resulting from operation/use not in accordance with the user manual.

3. After-sales service

(1) If there are special requirements for the installation and commissioning of the drive product, or if the product's performance or functionality is not satisfactory, please contact the product distributor or Megmeet.

(2) In case of any abnormalities, please seek assistance by contacting the product supplier or Megmeet.

(3) During the warranty period, any abnormalities caused by manufacturing and design defects will be repaired free of charge by our company.

(4) Beyond the warranty period, repairs will be conducted at the customer's request and charged by our company.

(5) Service fees are calculated based on actual costs. Any agreements in place will take precedence.

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