MTCC-V2 Series

Home Lift Control Panel

Starting Guide

V1.1 2023.08

MTCC-V2 Series Home Lift Control Panel

Starting Guide

Thank you for using the MTCC-V2 Series Home Lift Control Panel developed by Shenzhen Hpmont Technology Co., Ltd.

Version and Revision Records

Time:2023/08

Version: V1.1

Chapter	Contents
	• V1.1 version released

Contents

1. MTCC-V2

1.1 Model

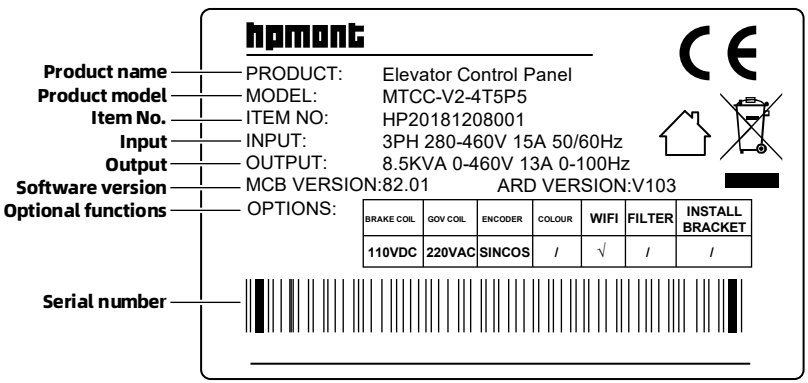
MTCC-V2-4T5P5-PG2

1 2 3 4 5

Code	Description	
1	Product series	• **MTCC-V2**: Home lift control panel
2	Voltage level	• **2**: 220 - 240V • **4**: 380 - 460V
3	Phase	• **D:** Single/Three phase • **T:** Three phase
5	Motor power	• **2P2**: 2.2kW • **3P7**: 3.7kW • **5P5**: 5.5kW
4	Encoder	• **PG1**: MT700-PG1-ABZ • **PG2**: MT700-PG2-SINCOS • **PG3**: MT700-PG3-UVW • **PG4**: MT700-PG4-SC

1.2 Nameplate

MTCC-V2



The optional functions are shown in the table below.

BRAKE COIL (Brake Voltage)	110VDC 24VDC
GOV COIL (Governor Voltage)	220VAC
ENCODER	ABZ: MT700-PG1-ABZ SINCON: MT700-PG2-SINCOS UVW: MT700-PG3-UVW SC-A: MT700-PG4-SC
COLOUR (Cabinet Color)	/: Default cabinet color
WIFI	√: Selected /: Not selected
FILTER	/: Not selected
INSTALL BRACKET	/: Not selected

MT70-CIC-E

The MT70-CIC-E is located to the right of the MTCC-V2 nameplate.

MAC codes are also available by scanning the QR code on the right.

1.3 Installation

Confirm the installation site meets the following conditions.

Condition	Description
Installation place	Indoor • No direct sunlight and water droplets • No flammable, explosive, corrosive gas and liquid • No oily dust and fiber • No metal powder • Mounting surface is fire-retardant and strong enough to support the control panel
Running temperature	-10 - +50℃ When the temperature exceeds 40°C, the control panel needs to be derated. For every 1°C increase, derate by 2%
Battery storage temperature	-20 - +50℃
Running humidity	Less than 95%RH, no condensation
Vibration resistance	IEC 60721-3-3 $2 \le f < 9$Hz, acceleration 3.5m/s² $9 < f \le 200$Hz, acceleration 10m/s²
Protection class	IP10
Pollution level	2 (dry, non conducting dust pollution)

1.4 Wiring

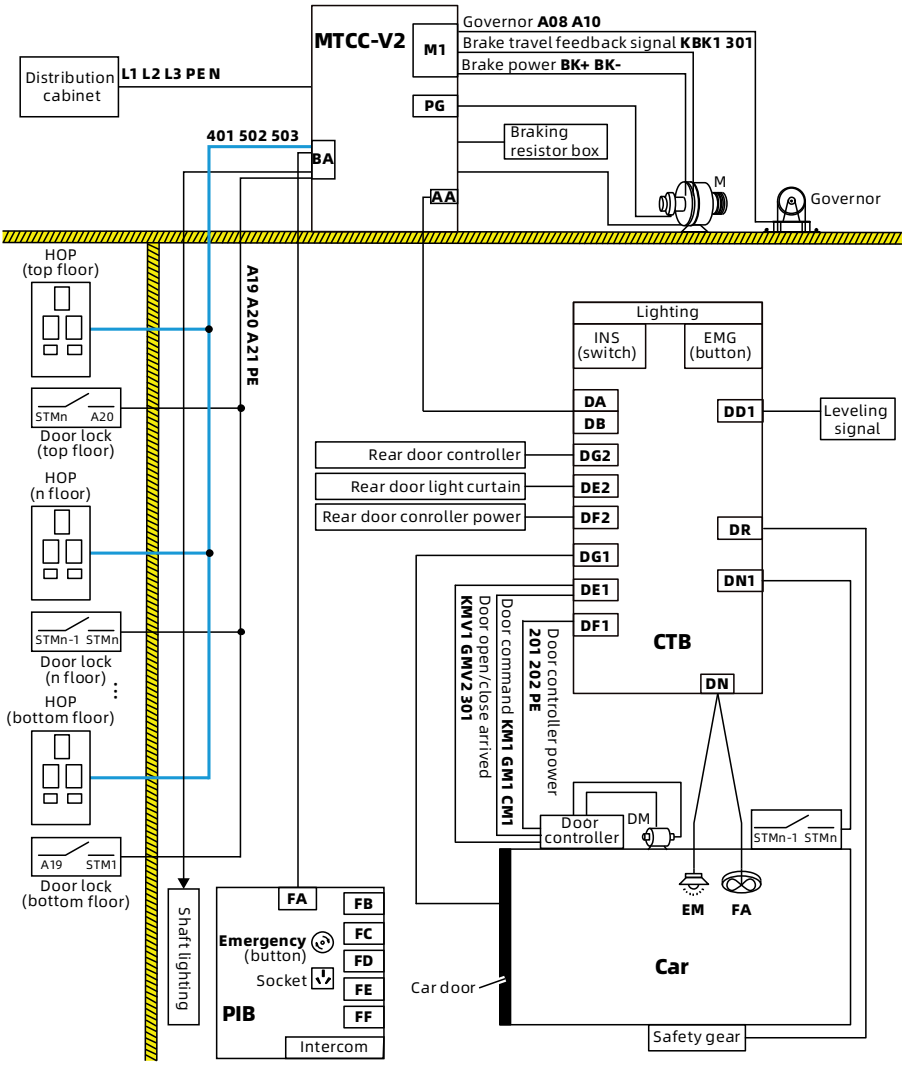
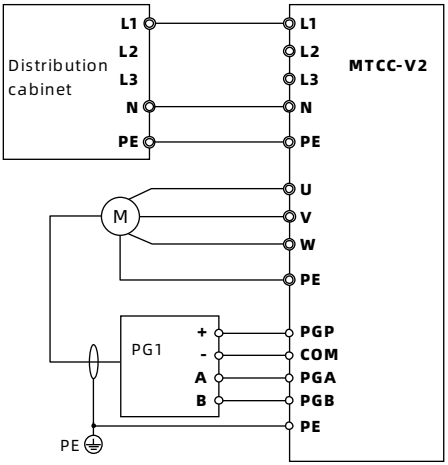


Figure 1-1 Elevator control system figure

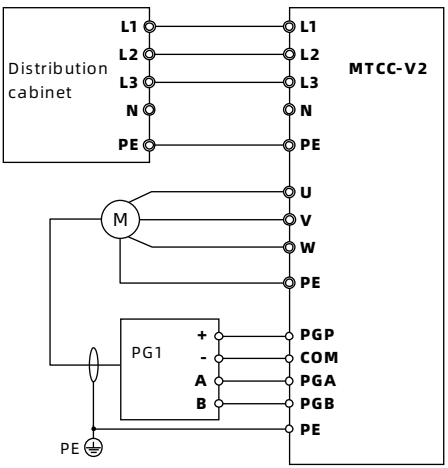
1.4.1 Main Circuit Wiring

Take MT700-PG1-ABZ as an example.

Single phase 220VAC input wiring



Three phase 220VAC input wiring



Three phase 380VAC input wiring

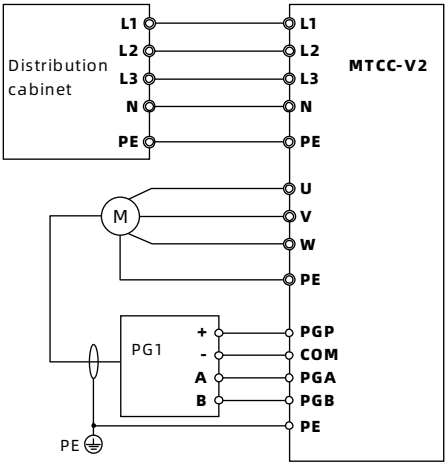


Figure 1-2 Main circuit wiring

1.4.2 Safety Circuit Wiring

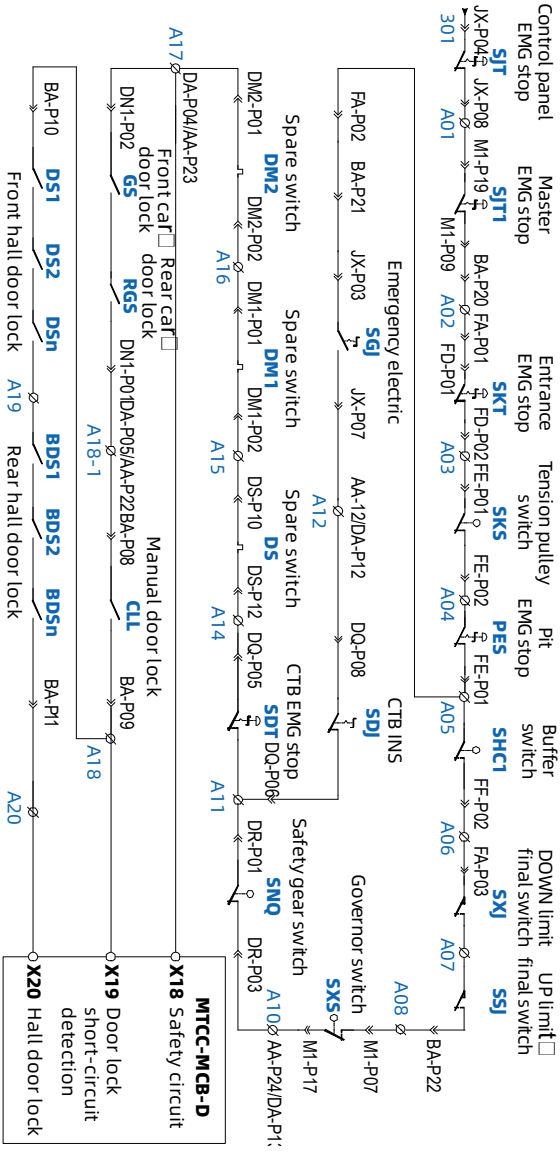
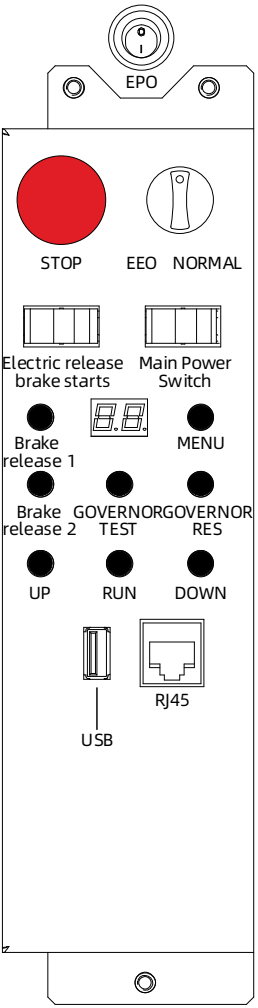


Figure 1-3 Safety circuit wiring

1.5 Inspection Box

Table 1-1 Inspection box description

INS Box		Description
	STOP (red button)	Control panel emergency stop switch • Press **STOP** button, the safety circuit is disconnected to cut off the system output, and the elevator stops running.
	Emergency electric switch (EEO/NORMAL)	Electric state transition switch • **EEO**: Emergency electric operation • **NORMAL**: Normal

	Main Power Supply
	(ON/OFF)
		Main power switch of control panel
		• With AC power:
		  • Turn to **ON**, the system power on; Turn to **OFF**, the system power off.
		  • Power off conditions: The door close arrived is valid, the door lock signal is valid and the leveling signal is valid.
		• Without AC power:
		  • When emergency rescue is output, two consecutive **ON/OFF** stop the output.
		  • When ARD standby, turn to **ON**, 2s later auto off.

	Electric release brake starts	Electric brake release start, see section 2.6 on page 18.
	Brake Release 1/2	Electric brake release, after ARD output, press **Brake Release** buttons at the same time
	MENU	Switch the status page of input and output
	LED (left and right)	Display the elevator floor, leveling position and door lock status • See Table 1-2 and Table 1-3
	GOVERNOR TEST	Power button for governor test coil
	GOVERNOR RES	Power button for governor reset coil
	UP/DOWN	Inspection up or down button • In the inspection state, press and hold **UP** and **RUN** buttons at the same time, the elevator runs up. • In the inspection state, press and hold **DOWN** and **RUN** buttons at the same time, the elevator runs down.
	RUN	Common button for inspection running
	USB	Bluetooth debugging interface
	RJ45	Keypad debugging interface
	EPO (I/O)	Battery switch

LED Function Description

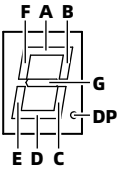


Figure 1-4 LED definition

In normal running, the LED displays as shown in the table below.

Table 1-2 LED display in normal running

LED	Display (Left LED)	Display (Right LED)
A, B, F	Up arrow	Floor data
G	Door zone signal	
C, D, E	Down arrow	
DP	Car door lock signal	Hall door lock signal

In menu interface, LED displays the elevator status, as shown in the table below.

- Left LED: Displays the page number of the menu.
- Right LED: Displays the input or output status of the menu on this page.

Table 1-3 LED display in menu interface

Left LED	Right LED								Input or output
	A	B	C	D	E	F	G	DP	
1	X1 state	X2 state	X3 state	X4 state	X5 state	X6 state	X7 state	X8 state	MCB board
2	X9 state	X10 state	X11 state	X12 state	X13 state	X14 state	X15 state	X16 state	
3	X17 state	X18 state	X19 state	X20 state	/	/	/	/	
4	Y1 state	Y2 state	Y3 state	Y4 state	Y5 state	Y6 state	/	/	
5	X1 state	X2 state	X3 state	X4 state	X5 state	X6 state	X7 state	X8 state	CTB board
6	X9 state	X10 state	X11 state	X12 state	X13 state	X14 state	X15 state	X16 state	
7	Y1 state	Y2 state	Y3 state	Y4 state	Y5 state	Y6 state	Y7 state	/	

2. Debug MTCC-V2

2.1 Set Parameter

1.	Check the control panel wiring and make sure the **EPO** switch is closed (EPO switch to "**I**").
2.	Power on. Then turn the **Main Power Supply** switch on the inspection box to "**ON**".
3.	Restore the factory parameters: Set F01.02 = 1 and press **ENT** key.
4.	Set the parameters according to the actual situation, as shown in the table below. • For more parameter descriptions, please refer to "MTCC-V2 Series Home Lift Control Panel User Manual".
5.	Check the function status of the corresponding terminals: • D02.01: MCB board terminal X1 - X16. • D02.02: MCB board terminal X17 - X22. • D03.01: CTB board terminal X1 - X14. • D02.03 - D02.05: MCB board input signal logic status (0 is invalid, 1 is valid). • D03.03 - D03.04: CTB board input logic state. Example: Set X18 as the safety circuit and X20 as the door lock circuit. • Check D02.02, if the corresponding Bit of X18 and X20 display 1, the safety circuit and door lock circuit are connected. • D02.03 can check the logic state of the signal: Such as upper / lower limit, inspection up / down and leveling, etc.

Ref. Code	Function	Value	Remark
F00.00	Motor type	According to the actual setting	0: Asyn. motor 1: Syn. motor
F00.01	Control mode	2 (VC control)	
F00.02	Elevator Max. running speed	According to the actual setting	Set according to need
F00.03	Elevator rated speed		
F00.04	Elevator rated load		
F00.05	Max. output frequency	According to the actual setting	= motor rated frequency
Group F03	Acc. and Dec. curve parameter	Set according to need	General default
Group F04	Speed parameter		
F07.00	Motor rated power	Set according to motor nameplate	For Asyn. motors, set group F07
F07.01	Motor rated voltage		
F07.02	Motor rated current		
F07.03	Motor rated frequency		
F07.04	Motor rated Rpm		
F10.01	Motor rated power	Set according to motor nameplate	For Syn. motors, set group F10
F10.02	Motor rated voltage		

Ref. Code	Function	Value	Remark
F10.03	Motor rated current		
F10.04	Motor rated frequency		
F10.05	Motor rated Rpm		
F11.00	Encoder card	According to the actual setting	Set according to encoder
F11.01	Encoder card pulses/rotation		
F11.02	Encoder card rotation direction		
F12.01	MCB board X1 function	Default 101 (up leveling)	When using one sensor, set the door zone signal (F12.01 = 3 or F12.03 = 3)
F12.02	MCB board X2 function	0	
F12.03	MCB board X3 function	Default 102 (down leveling)	
F12.04	MCB board X4 function	110 (inspection NC input)	System default, please do not change
F12.05	MCB board X5 function	11 (inspection up NO input)	
F12.06	MCB board X6 function	12 (inspection down NO input)	
F12.07	MCB board X7 function	118 (up forced 1 Dec. NC input)	
F12.08	MCB board X8 function	119 (down forced 1 Dec. NC input)	
F12.09	MCB board X9 function	0	
F12.10	MCB board X10 function	32 (brake feedback NO input 1)	
F12.11	MCB board X11 function	109 (brake output feedback NC input)	
F12.12	MCB board X12 function	59 (electric brake release NO input)	
F12.13	MCB board X13 function	0	Spare function terminal
F12.14	MCB board X14 function	0	
F12.15	MCB board X15 function	0	
F12.16	MCB board X16 function	29 (door-closed output feedback NO input)	System default, please do not change
F12.17	MCB board X17 function	28 (emergency running NO input)	
F12.18	MCB board X18 function	4 (safety circuit 1)	
F12.19	MCB board X19 function	60 (door lock short-circuit detection)	
F12.20	MCB board X20 function	6 (door lock circuit 2 NO input)	
F12.21	MCB board X21 function	41 (brake feedback NO input 2)	
F12.22	MCB board X22 function	30 (Syn. star-delta feedback NO input)	
F13.01	CTB board X1 function	101 (front door light curtain NC input)	
F13.02	CTB board X2 function	106 (rear door light curtain NC input)	
F13.03	CTB board X3 function	102 (front door open in place NC input)	
F13.04	CTB board X4 function	104 (rear door open arrived NC input)	
F13.05	CTB board X5 function	103 (front door close arrived NC input)	
F13.06	CTB board X6 function	105 (rear door close arrived NC input)	
F13.07	CTB board X7 function	7 (full load signal NO input)	
F13.08	CTB board X8 function	108 (overload signal NC input)	
F26.08	CTB board X9 function	Bit2&Bit1&Bit0 = 000 and Bit6&Bit5Bit4 = 000 (disable leveling input function)	
	CTB board X10 function		

Ref. Code	Function	Value	Remark
	CTB board X11 function	Bit9&Bit8 = 01 (inspection up NO input)	
	CTB board X12 function	Bit11&Bit10 = 01 (inspection down NO input)	
	CTB board X14 function	Bit15&Bit14 = 10 (inspection NC input)	

2.2 Parameter Auto-tuning

Note:
1. Static auto-tuning does not need lift car.
2. Before parameter auto-tuning, please set the motor and encoder parameters correctly.

2.2.1 Asyn. Motor Static and Rotational Auto-tuning

Usually, the Asyn. motor does not need to perform parameter auto-tuning, but when the running effect is not good, please perform auto-tuning.

1.	Set F00.07 = 0 (keypad control).
2.	**Start static auto-tuning**: Set F07.06 = 1 (static auto-tuning), press **RUN** key to start auto-tuning. • Automatically turns on the run relay. • The motor does not rotate and makes a whistling sound that lasts for about 30s. **Start rotational auto-tuning**: Set F07.06 = 2 (rotational auto-tuning), press **RUN** key to start auto-tuning. • Automatically turns on the run relay. • The motor rotates. • If motor vibration or even overcurrent occurs, press **STOP** key to stop auto-tuning, and adjust F07.21 and F07.22 (vibration suppression).
3.	After the end, set F00.07 = 1 (distance control).
Note:	
1.	Parameter auto-tuning does not learn encoder pole angle. After auto-tuning, when the elevator inspection runs, the system report E0030 fault (encoder reverse). **Take measures**: Change F11.02 (encoder direction).

2.2.2 Syn. Motor Static Auto-tuning

1.	Confirm: • The door lock circuit is closed. • The safety circuit is closed.
2.	Turn the emergency electric switch on the inspection box to **EEO**.
3.	Set F10.12 = 0 (Syn. motor initial angle), F00.07 = 1 (distance control), F10.10 = 1 (static angle auto-tuning).
4.	Start staic auto-tuning: Press and hold **UP** and **RUN** buttons on the inspection box at the same time, the elevator runs up. Or press and hold **DOWN** and **RUN** buttons on the inspection box at the same time, the elevator runs down. • The control panel emits a series of pulse voltages, and the motor emits a buzzing sound. • At the buzzing sound ends, the motor goes for inspection and stops automatically after one cycle.
5.	Release the buttons, confirm auto-tuning successfully: • ABZ or UVW encoder: F10.12 (motor initial angle) is obtained. • SINCOS encoder: F10.14 - F10.17 (encoder parameters, factory 2048) and F10.12 (motor initial angle) are obtained.
6.	Record F10.12 data (not 0). Repeat the auto-tuning 2 times (3 - 4 steps), record F10.12, and subtract the three times data two by two. • SINCOS encoder: The difference is within 5°, or the difference with 360° / n (integer) × motor pole pair is within 5°. Otherwise, start auto-tuning again until success. • ABZ or UVW encoder: The difference is within 30°. Otherwise, start auto-tuning again until success.
Note:	
1.	The given direction is inconsistent with the actual running direction. **Take measures**: Invert F00.10 (elevator running direction) and start auto-tuning again.
2.	During auto-tuning, when the motor is just moving from standstill to start, the system report E0030 fault (encoder reversed) or E0031 fault (encoder disconnected). **Take measures**: Change F11.02 (encoder direction). If the system still reports fault, decrease the KP and KI of the speed loop (group F08).
3.	During auto-tuning, the system report overcurrent or encoder reverse fault. **Take measures**: Set F11.02 = 1 (encoder direction reversed), and start auto-tuning again.
4.	If the auto-tuning fails, the motor is in danger of runaway. Please cooperate with two people. When the motor runaway, press **STOP** button on the inspection box to turn off the power.
5.	If an abnormality occurs during auto-tuning, press **STOP** button on the inspection box to stop auto-tuning.
6.	The system configures the SINCOS encoder, after auto-tuning, when the elevator inspection runs, the system reports fault or motor runaway. **Take measures**: Check the C/D phase and confirm it's normal.

2.3 Shaft Self-learning

1.	Turn the emergency electric switch on the inspection box to **EEO**.

2.	Press and hold **DOWN** and **RUN** buttons on the inspection box at the same time, move the elevator to the down limit, and confirm:
	• Down forced Dec. signal is valid.
	• The current floor is the 1st floor, and the keypad display "1".
	• The position of the leveling switch:
	  • When the total floor is 2, the lower leveling switch is below the leveling plate.
	  • When the total floor is greater than 2, at least one leveling switch is inside the leveling plate.

3.	Start shaft self-learning: Set F26.01 = 4 (automatically start shaft self-learning).
4.	The elevator runs at the self-learning speed (F04.03), and records the leveling plate length, the floor height of each floor, and the position of the up and down forced Dec. switches.
5.	When the elevator reaches the upper limit, the elevator stops. Confirm auto-tuning successfully: The system does not report fault. • If the system reports E50 fault (shaft self-learning fault). **Take measures**: Clear the fault, and start self-learning again until success.
6.	Confirm self-learning data: • F19.07 - F19.11 (Max. curve speed): The speeds are not 0. • F19.12, F19.13: The forced Dec. position is correct. • Group F20: The floor data is correct. • D04.02 (Min. floor distance), D04.03 (highest floor distance): Match the actual. • D06.06 (leveling switches), D06.07 (length between level switches), D06.08 (leveling plate length): Match the actual.
Note:	
1.	In any of the following situations, please start shaft self-learning again: • Adjust the position of the leveling plate. • Adjust the position of forced Dec. switch.

2.4 Adjust Comfort Feeling

2.4.1 Adjust Starting Comfort Feeling

Phenomenon

When the elevator starts, the car has a sense of frustration (step sense).

Adjustment

Set the pre-torque parameter

Since the various brakes opening time is different, and the brake response time is greatly ambiected by the ambient temperature (the brake coil temperature is too high, the brake response becomes slower), appropriately increase F02.01 (curve running delay time).

Set the torque parameters as shown in the table below.

Ref. Code	Function	Range	Default	Note
F02.01	Curve running delay time	0.000 - 2.000s	0.500s	The brake opens and after F02.01 time, then the elevator starts to run
F05.00	Start pre-torque	0: No pre-torque 1: Analog weighing 2: Digital weighing 3: Pre-torque automatic compensation	0	Set according to need
F05.16	No weighing current coefficient	0 - 9999	1500	The car slips when starting, increase F05.16 - F05.18 • Too large cause oscillation
F05.17	No weighing speed loop KP	1 - 9999	200	
F05.18	No weighing speed loop KI	1 - 9999	200	

Brake gap problem

Confirm by following steps.

1.	The brake can be opened, and the brake power is sufficient, and the brake coil circuit is connected.
2.	The brake opening gap is sufficient. If there is friction brake, please adjust the brake gap.
3.	The brakes on both sides are synchronized. If not synchronized, please adjust to synchronization.
4.	The sound is not loud when the brake is opened. If it is too loud, please adjust to make the sound smaller.

Guide shoe too tight, **too much static friction**

Confirm by following steps.

1.	The guide shoe is not too tight. If it is too tight, adjust the guide shoe.
2.	Adjust the starting speed or the speed loop PI to overcome static friction, the parameters are shown in the table below.

Ref. Code	Function	Range	Default	Note
F02.02	Starting speed	0.000 - 0.030m/s	0.000m/s	Set the starting speed when the elevator starts

Ref. Code	Function	Range	Default	Note
				• Proper starting speed can overcome static friction
F02.03	Starting speed holding time	0 - 2s	0s	Holding time of starting speed
F02.06	Starting ramp time	0 - 2s	2s	Set the Acc. time for the elevator to accelerate from zero speed to F00.03 (elevator rated speed) • Use with F02.02
F08.00	Low speed speed loop KP	1 - 9999	200	Increasing this parameter can increase the dynamic response of the system • Too large cause oscillation
F08.01	Low speed speed loop KI	1 - 9999	200	

2.4.2 Adjust Running Comfort Feeling

Phenomenon

The elevator shakes during acceleration, deceleration or constant speed.

Adjustment

Ref. Code	Function	Range	Default	Note
F08.00	Low speed speed loop KP	1 - 9999	200	Shake within frequency 1, increase F08.00/F08.01; Shake above frequency 2, increase F08.02/F08.03; Shake between frequency 1 and frequency 2, take the average of two low speed PI and high speed PI. • Too large cause oscillation
F08.01	Low speed speed loop KI	1 - 9999	200	
F08.02	High speed speed loop KP	1 - 9999	200	
F08.03	High speed speed loop KI	1 - 9999	200	
F08.04	Speed loop PI switching frequency 1	0 - 50Hz	3Hz	
F08.05	Speed loop PI switching frequency 2	0 - 50Hz	5Hz	
F09.00	Current loop KP	1 - 4000	100	Increasing this parameter can improve shake • Too large may cause system overcurrent
F09.01	Current loop KI	1 - 4000	100	

Note:
If F10.20 Bit15 = 1 (enable vibration suppression function), adjust F09.04 (current loop execution period) and F18.00 (carrier frequency) to avoid mechanical resonance points.

2.4.3 Adjust Running Curve

Phenomenon

MTCC-V2 adopts S-curve Acc. and Dec. to minimize the impact during Acc. and Dec., and it is smoother during starting and stopping.

But different applications use different Acc. and Dec. curve parameters.

Too fast Acc. and Dec. affects the comfort felling, and too slow reduces the operating efficiency of the elevator.

Adjustment

Please adjust according to the actual situation.

When you need to decrease the Acc. and Dec. speed, please decrease F03.00 - F03.05; otherwise, increase F03.00 - F03.05.

- Acc. speed (F03.00), Dec. speed (F03.03): Rate of speed change.
- Rapid Acc. (F03.01, F03.02), rapid Dec. (F03.04, F03.05): Rate of Acc./Dec. change.

2.4.4 Adjust Leveling

Phenomenon

When the elevator stops and opens the car door, the car level is not level with the hall level.

Adjust All Leveling

F03.17 = 0: F19.03 adjusts all up and down leveling.

F03.17 = 1: F03.15 adjusts all up leveling, F03.16 adjusts all down leveling.

Fine-tune Each Leveling

Set F27.01 = 1, F27.02 - F27.25 each parameter adjusts 1 floor.

- The left 2 bits of the parameter value set the up leveling, and the right 2 bits of the parameter value set the down leveling.
- The default is 30 (mm), and the adjustment range is 0 - 60 (mm).
- If the car level is lower than the hall level, increase the default value (30). If the car level is higher than the hall level, decrease the default value (30).

2.5 Power Failure Emergency Rescue Application

When the elevator is running automatically, if MTCC-V2 detects that there is no AC power input, the system starts the power failure emergency rescue function.
MTCC-V2 enters the power failure emergency running, the buzzer in the control cabinet buzzes, the system judges the light-load running direction of the car, the elevator runs at the emergency speed to the nearest level with leveling signal, and then keeps the door open. After 20s, the buzzer stops buzzing and the system is powered off.

Ref. Code	Function	Set
F12.17	MCB board X17 terminal	28: Emergency running NO input
F12.37	Emergency electric running speed	0.1m/s
F26.15	Emergency running parameter	Bit0: Emergency self-rescue timeout protection • 0: Enable • 1: Disable Bit1: Syn. motor emergency self-skidding running • 0: Disable • 1: Enable Bit2: Judge emergency runing direction • 0: Automatic judge • 1: Judge based on the weighing signal Bit3: Fixed up run of emergency runing direction • 0: Not determined by this bit • 1: Fixed up run Bit4: Fixed down run of emergency runing direction • 0: Not determined by this bit • 1: Fixed down run Bit5: Enable self-skidding to drive function • 0: Disable • 1: Enable Bit6: Self-skidding to drive method • 0: Time set, 50s not reached leveling • 1: Speed set, after 10s self-skidding, the speed < F26.28 Bit7: Buzzing mode in emergency running • 0: Continuous • 1: Intermittent Bit8: Start auto-compensation in emergency running • 0: Disable • 1: Enable Bit9: Door controller action after emergency running • 0: Hold open the door • 1: Close the door after open arrive Bit10: Brake action times in emergency running • 0: Act for two times • 1: Act for one time Bit11: Time for emergency running timeout protection • 0: 60s

Ref. Code	Function	Set
		• 1: Automatic calculation based on running speed and floor distance Bit12: Judge inspection mode in emergency running • 0: According to external terminal • 1: According to input voltage and external terminal Bit13: Select emergency runing command • 0: UPC output contactor feedback • 1: External ARD provide Bit14: Dec. to stop mode • 0: When up and down leveling • 1: When leveling Bit15: Unused

2.6 Electric Brake Release Application

Note:
This function should be operated by an elevator professional.

For emergency rescue, MTCC-V2 is designed with electric brake release function.
In the case of no AC power and ARD is turned off, if the elevator stops in the non-leveling zone, you can start the function to make the car run to the leveling zone.

Operation Step (on the Inspection Box)

1.	Observe the position of the car and judge the running direction of the car.

2.	Set the elevator to enter the inspection state.
	• With AC power:
	  • Set F14.09 Bit10 = 1 (start the AC power electric brake release) .
	• Without AC power:
	  • Press and hold **Electric release brake starts** button until the ARD starts (about 8s), the elevator system emergency power supply, LED is on.

3.	Press **Brake Release** buttons at the same time, the brake power output, the car moves, and after 3 - 5s, the brake power stops output.
4.	Release **Brake Release** button and repeat until the car reaches the leveling zone.

Set Parameter

Ref. Code	Function	Set
F12.12	MCB board X12 terminal	59: Electric release NO input
F14.09	AC power release function enabled	Bit10 = 0: Do not release (default) Bit10 = 1: Release

2.7 Manual Door Application

Note:
For more parameter descriptions, please refer to "MTCC-V2 Series Home Lift Control Panel User Manual".

Ref. Code	Function	Range	Default	Recommend
F26.16 Bit9	Manual door	0: Disable 1: Enable	0	1
F26.22 Bit11	Buzzer action when manual door lock disconnection	0: No action 1: Action	0	1
F12.38 Bit0	Car call and hall call display when manual door lock disconnection	0: Normal display 1: Manual door display • When set to 1, the car door is not closed, display **C** and **floor**, and the hall door is not closed, display **L** and **floor**	1	1
F12.38 Bit3&Bit2&Bit1	Solenoid valve on time	1 - 8s 000 = 1s ..... 111 = 8s	2s	3s
F12.38 Bit6&Bit5&Bit4	Solenoid valve off time		5s	2s
F12.38 Bit7	Buzzer action condition when manual door lock disconnection	0: The system has a call command and the door lock is disconnected 1: The door lock is disconnected	1	0
F12.38 Bit10&Bit9&Bit8	Solenoid valve action times	1 - 8 times 000 = 1 times ..... 111 = 8 times	3 times	3 times
F12.38 Bit11	Semi-automatic manual door	0: Close the car door normally 1: Close the car door after the hall door lock closes	0	0
F12.38 Bit12	Manual door solenoid valve output	0: Always output 1: Interval output	1	1
F12.38 Bit14&Bit13	Two-door manual door (front and rear door)	00: Disable 01: Front door is automatic door and rear door is manual door 10: Front door is manual door and rear door is automatic door	00	00
Time from elevator stop to elevator start again (s) = (F22.07 + F22.08) / 2 + F22.11 (or F22.12), the Min. is 1s. • F22.11: Hall call OD holding time. • F22.12: Car call OD holding time.				

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