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MCTC-HCB-T7070/S-01 Multimedia Display

User Guide

Industrial Automation | New Energy Vehicle | Intelligent Elevator | Intelligent Robot | Digital Energy | Rail Transit

Data code PS00022210A00

Legal Information

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Due to continuous updates and improvements of products and technologies, the content of this documentation may not fully match the actual products. In the event of any discrepancies, the actual products shall prevail.

The contents are subject to change without notice due to product upgrade.

Waste Disposal

The storage, use, and disposal of this product (including optional accessories) must comply with local laws and regulations.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel can identify the risks of the product/system and prevent possible dangers.

Proper Use of the Product

Proper transportation, storage, assembly, installation, commissioning, operation, and maintenance are required to ensure the safe operation of the product without any problems. The required ambient conditions must be met. All operations must follow the guidelines provided in this documentation.

Preface

Introduction

The product is a multimedia display (hereinafter referred to as "device") used inside the elevator car, with primary functions designed for passenger convenience. Passengers can operate the elevator through this interface, such as selecting their destination floor, and can also control the door open/close. Additionally, it displays information related to the elevator operation status, including but not limited to the current floor number and the direction of travel. This guide describes the basic information, installation, commissioning, and troubleshooting of the product.

Revision History

Date	Version	Revision
April 2026	A00	First issue.

Access to the Guide

This guide is not in the scope of delivery. If necessary, you can obtain the PDF file in the following ways:

- Visit *https://www.inovance.com/global*, choose Service&Support > Support > Documentation Download.
- Scan the **QR code** on the product with your smartphone.
- Scan the QR code below to install the application **My Inovance**, where you can search for and download the guide.

Warranty Instructions

If your product becomes defective under normal use conditions, we will offer guaranteed repair services within the warranty period. Charges will be paid beyond the warranty listed in the purchase order.

The warranty does not cover any defect caused by:

- failure to operate the product in accordance with the user guide
- events beyond control, such as fire, flood and abnormal voltage
- function misuse
- out-of-range application
- other events of force majeure, including but not limited to lightning, earthquake and other extreme weather events

The maintenance fee is charged according to the latest Price List of Inovance. If otherwise agreed upon, the agreed terms and conditions shall prevail.

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1 General Safety Rules

1.1 Safety Instructions

Safety Disclaimer

- To ensure the safety of humans and equipment, follow the signs on the product and all the safety instructions in this guide.
- To ensure the safety of humans and equipment, follow the signs on the product and all the safety instructions in this guide.
- The "CAUTION", "WARNING", and "DANGER" are only supplements to the safety instructions.
- Use this product according to the designated environmental requirements. Functional abnormalities or component damages caused by improper usage are not covered by warranty.
- Inovance shall take no responsibility for any personal injuries or property damage caused by improper usage.

Safety Levels and Definitions



Indicates that failure to comply with the notice will result in severe personal injuries or even death.



Indicates that failure to comply with the notice may result in severe personal injuries or even death.



Indicates that failure to comply with the notice may result in minor or moderate personal injuries or damage. Keep the guide properly for future reference and deliver it to the end user.

Wiring

DANGER

- Ensure that all power sources are disconnected before performing installation and wiring operations; avoid working on live circuits or plugging/unplugging cables to prevent electric shock or circuit damage.
- Connect the wiring for the DC power supply to the dedicated terminals as described in the guide.
- When drilling screw holes and wiring, ensure no metal shavings or wire clippings fall into the product to avoid malfunction, electronic component damage, or fire.
- After completing the wiring, carefully check to ensure the operating voltage and terminal positions are correct to avoid fire or accidents.

CAUTION

- To avoid electric shock, disconnect the power source before connecting the power to this product.
- The rated input power supply for this product is 24 VDC (allowable fluctuation range: 18 VDC to 36 VDC). If the input voltage is outside this range, severe damage to this product may occur. Therefore, please regularly check whether the DC power provided by the switched-mode power supply is stable.

Operation and Maintenance

CAUTION

- During use, take care to protect the panel; perform touch operations with your hand instead of tools to avoid damage. Users are responsible for any damage caused by excessive force exerted.
- Lithium batteries, device screens, capacitors, and other components may contain substances harmful to health and the environment. Treat the product as industrial waste.

Battery Use

WARNING

- Avoid replacing the battery with an incorrect type.
- Do not dispose of the battery in fire or heat sources, do not mechanically crush or cut batteries.
- Do not expose the battery to extreme temperatures.
- Do not swallow the battery as it poses a chemical burn hazard.
- This product contains a button battery. If swallowed accidentally, it can cause severe internal burns within 2 hours and may lead to death.

CAUTION

- Keep new and used batteries away from children.
- If the battery compartment is not securely closed, stop using the product and keep it away from children.
- Seek immediate medical attention if you suspect battery ingestion occurs.

Disposal
CAUTION • Dispose of the product according to industrial waste regulations; when disposing of batteries, follow local ordinances separately.

1.2 Industrial Information Security

The product provides an interface to connect to the network and transmit data through the network interface. To protect factories, systems, machines, and networks from cyber attacks, a proper industrial information security protection mechanism must be implemented to ensure safe operation of factories, systems, machines, and networks.

The customer is responsible for providing and continuously ensuring a secure connection between the product and the customer network or any other network to prevent unauthorized access to its factories, systems, machines, and networks. The system and device can be connected to the corporate network or Internet only when they are connected securely with appropriate security measures taken (for example, anti-virus software and firewall installation).

Inovance is committed to continuous development and improvement of the products and solutions to improve the level of safety. It is strongly recommended to update the product promptly and always use the latest version.

CAUTION

Tampering with software (such as viruses, Trojans, and Worms) can lead to unsafe drive state, which can put the device in an unsafe operation state. This may result in death, serious injury, and property damage. Observe the following strictly.

- Always use the latest software version. If the product version is no longer supported or the latest version of the program is not applied, customers are at increased risk of cyber-attacks.
- Take proper protection measures (including but not limited to deploying antivirus software, firewall, WAF, IPS/IDS, situational awareness system, ID verification, and data encryption) to prevent files in the mobile storage device from being damaged by malware and protect products, networks, systems, and interfaces from unauthorized access, disturbance, intrusion, data disclosure, or information theft.
- Check all safety-related interfaces and settings after commissioning.

2 Product Information

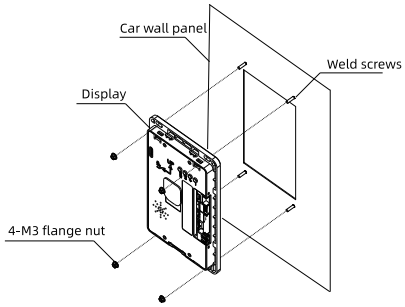
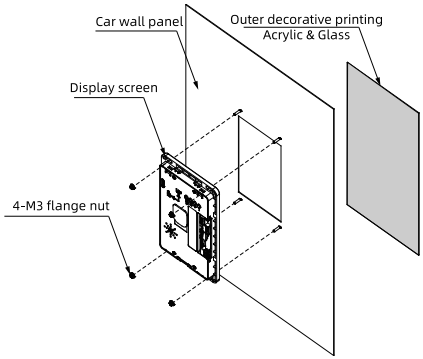
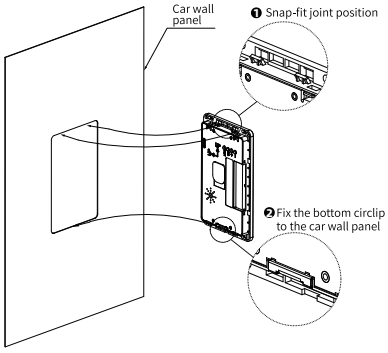
2.1 Model Number Description

MCTC - HCB - T 7 0 X 0/S- 01

① ② ③ ④ ⑤

① **Product series** MCTC-HCB-T: Picture display MCTC-HCB-M: Multimedia display MCTC-HCB-S: Smart display	③ **Product dimensions** 070: 7 inches 080: 8 inches
② **Platform version** Updated according to actual platform changes	④ **Encryption** S: Encrypted -: Non-encrypted
	⑤ **Serial number**

2.2 Selection Table

Installation method selection	
Installation method	Illustration
Flush mount with rear chassis	
Flush recessed mount	
Surface mount	

UI selection		
English code	Landscape	Portrait
UI1		
UI2		
UI3		
N/A	Contact the device supplier for customization needs	

2.3 Technical Specifications

Param.	Description
Screen size	7 inches
Resolution	800 px x 480 px
Product view directions	θL-θR-θT-θB
	70-70-70-50
LCD brightness	320 cd/m^2
Display area	154.7 mm (W) x 86.5 mm (H)
Power supply voltage	18 VDC to 36 VDC
Rated/Maximum power consumption	3.9 W/4.8 W
Rated/Maximum current (24 VDC)	160 mA/200 mA
Storage capacity	120 MB (User available space: 64 MB)
Operating environment	• Temperature: -20°C to +70°C • Humidity: 10% RH to 90% RH
Storage environment	• Temperature: -30°C to +80°C • Humidity: 10% RH to 90% RH

2.4 Product Dimensions

The devices come in surface mounting and embedded mounting types, with slightly different appearances (refer to the actual product), but have consistent dimensions. The following dimensions are for the embedded mounting type as an example.

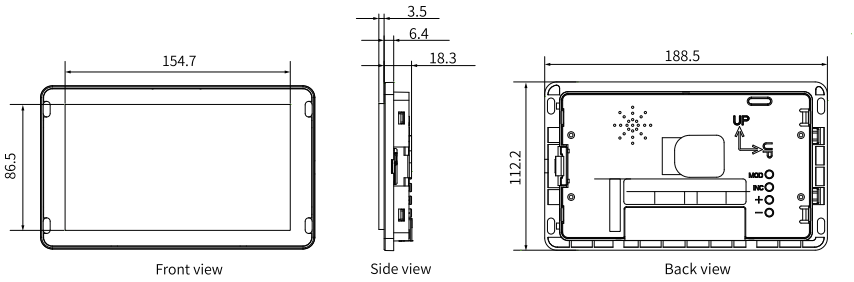


Figure 2-1 Product dimensions (unit: mm)

2.5 Appearance

The devices come in surface mount and flush mount types, with slightly different appearances (refer to the actual product). The following part takes the flush mount type as an example.



Figure 2-2 Appearance

2.6 System Connection

Note

The figure is only for illustration. See the actual product for specifics.

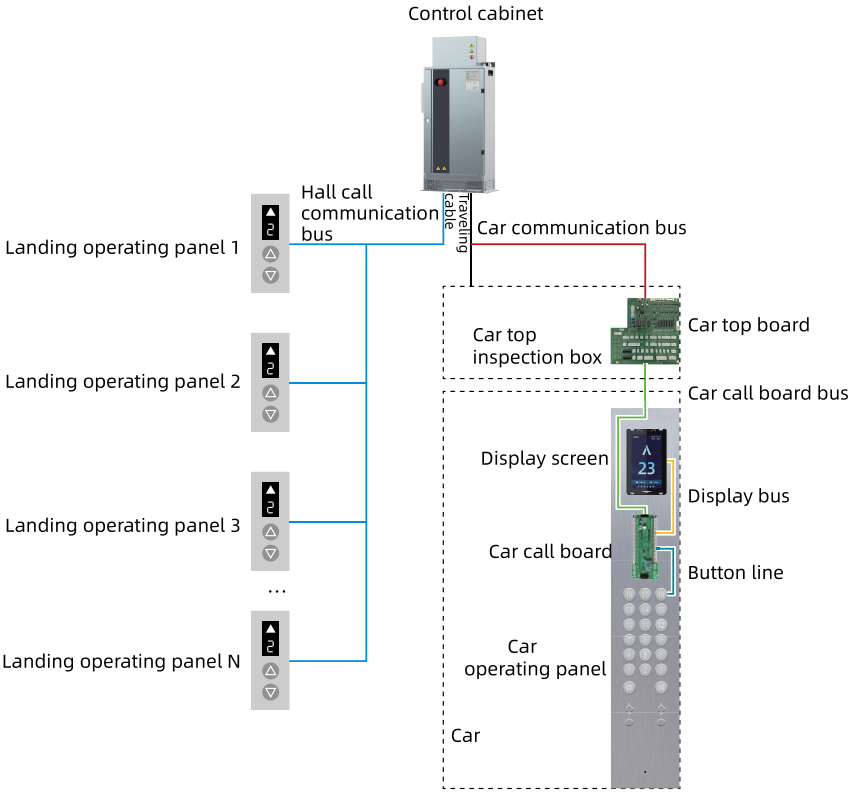


Figure 2-3 System connection

3 Preparations Before Installation

3.1 Unpacking and Handling

Upon unpacking, check:

No.	Item	Description	Tick
1	Whether the product model is consistent with your order.	Check the model and specifications of the device for consistency with the order.	□
2	Whether the product is damaged.	Check whether the product enclosure is damaged during transportation. If there is any part missing or damaged, contact Inovance or your supplier immediately.	□

3.2 Installation Personnel Requirements

- Installation must be performed by only experienced personnel who have been trained with necessary electrical information.
- Read and comply with the safety information provided this manual.



Inovance is not responsible for equipment damage and casualties due to failure to comply with the safety instructions or operation by unqualified personnel.

3.3 Installation Environment Requirements

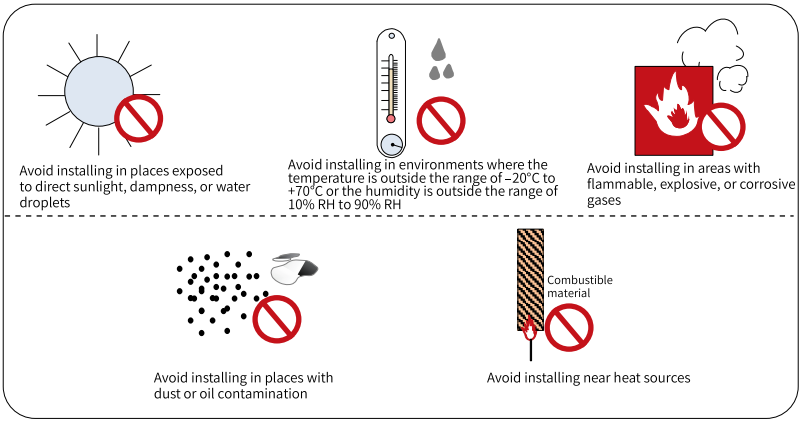


Figure 3-1 Installation environment requirements

3.4 Installation Tools

Please check the installation tools listed in the following table before installation. Tools not included with the scope of delivery must be provided by the customer.

Table 3–1 Installation tools

Tool	Description
Glove	Prevents static electricity during mechanical installation.
M3 x 15 weld screw (4 PCS)	Fix the product to the mounting surface.
Four M3 flange nuts	
M3 Phillips screwdriver	Tightens the screws.
5.5 mm open-end wrench or socket wrench	

4 Installation Guidelines

4.1 Port Layout and Description

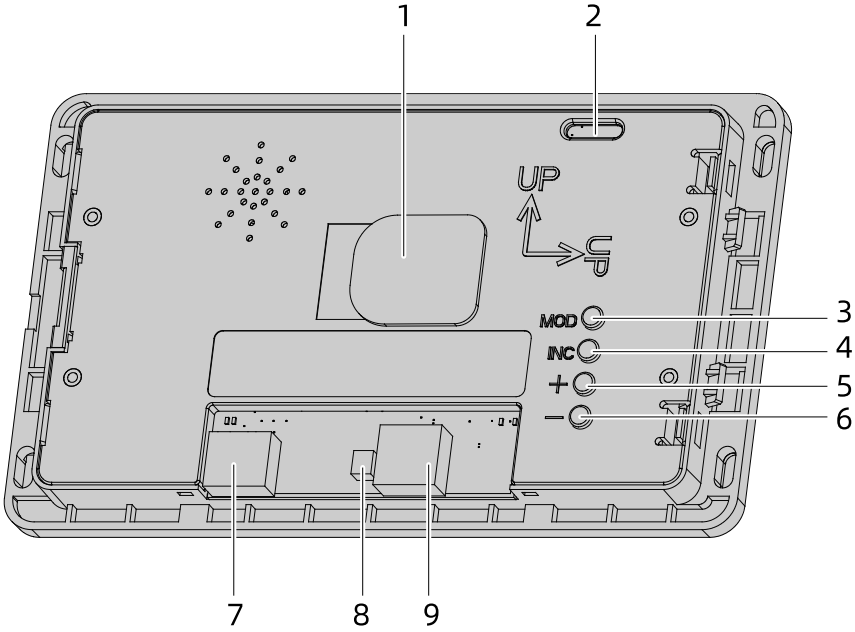


Figure 4-1 Port layout

Table 4–1 Port description

No.	Port	Description
1	Battery	Button battery; see *"8.3 Battery Replacement" on page 40* for replacement instructions.
2	Programming port	Performs programming or update on the deviceprograms.
3	MOD	• Enters the setup menu interface • Enters the next-level menu • Enters the menu editing mode
4	INC	• Exits the setup menu interface • Returns to the previous-level menu • Exits the menu editing mode
5	+	• Moves up through menu items • Increases the value of a menu item (holding down increases speed)

No.	Port	Description
6	-	• Moves down through menu items • Decreases the value of a menu item (holding down increases speed)
7	USB	Updates device resources.
8	DIP switch	Enables or disables the termination resistor. • 1: Termination resistor CAN • 2: Termination resistor RS485
9	RS485	RS485 serial communication. 24V, MOD+, MOD-, GND

4.2 Installation Procedure

The devices come in surface mount and flush mount types: flush mount with rear chassis, flush recessed mount and surface mount specifically.

4.2.1 Flush Mount with Rear Chassis

This mounting method is suitable for integrated sheet metal control panels. The panel cutout must match the dimensions of the display's rear chassis to ensure a precise fit. Detailed mounting dimensions are as follows:

Note

The images in this chapter are for installation reference only. Please refer to the actual product for appearance.

---

1. Cut out a square area on the car wall panel and install weld screws according to the hole positions.

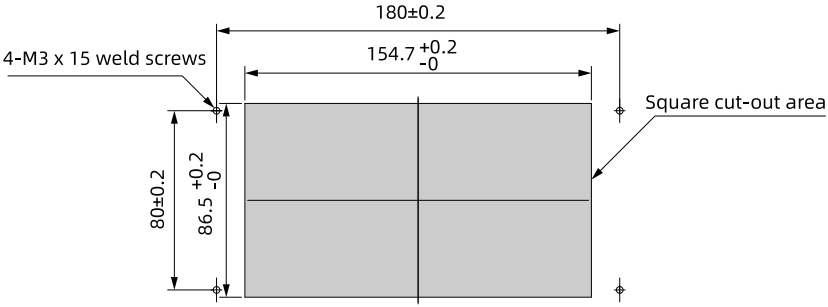


Figure 4-2 Hole dimensions (unit: mm)

2. Secure the device to the panel with four M3 flange nuts.

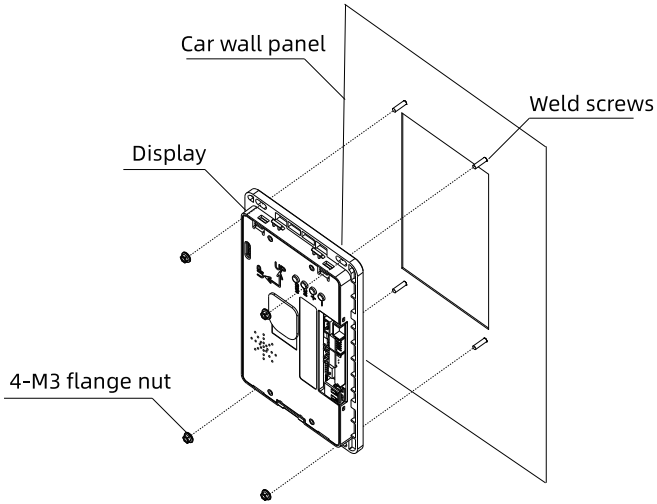


Figure 4-3 Flush mount with rear chassis illustration

CAUTION

The protrusion height of this display is 3.5mm, which can fit control panels with a maximum wall thickness of 3.5mm. If the control panel is thinner than 3.5mm, spacers should be used to make up the height difference.

3. Check the installation effect.

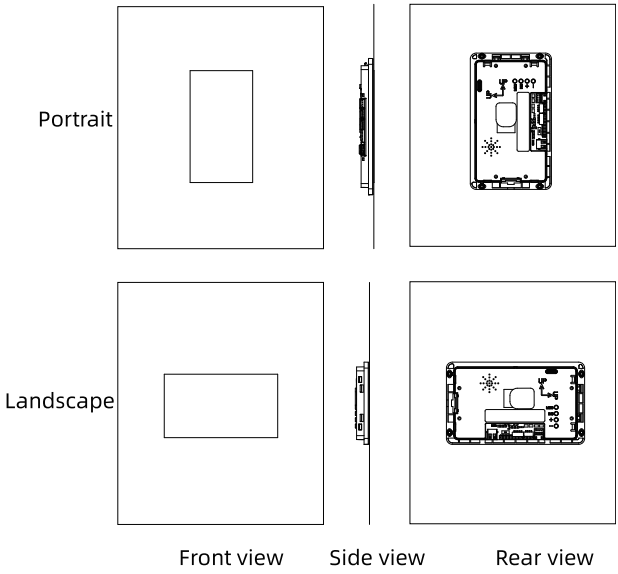


Figure 4-4 Installed view of flush mount with rear chassis

CAUTION

The display has a grounding sign on the back and must be grounded safely.

4.2.2 Flush Recessed Mount

This mounting method is compatible with segmented control panels featuring a display window (glass or acrylic). The transparent area of the window must correspond to the screen's display area, ensuring the unprinted area matches the size of the active display. Installation dimensions are as follows:

Note

The images in this chapter are for installation reference only. Please refer to the actual product for appearance.

1. Cut out a square area on the car wall panel and install weld screws according to the hole positions.

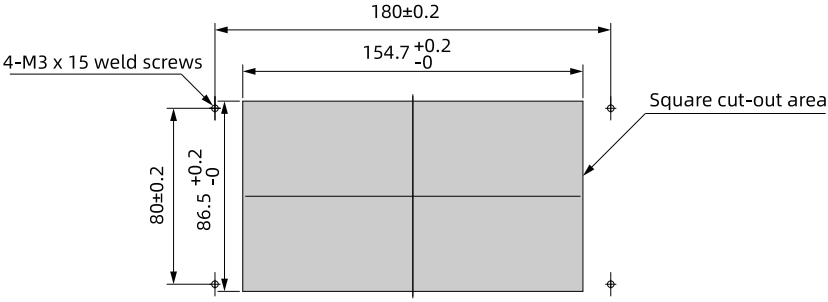


Figure 4-5 Hole dimensions (unit: mm)

2. Print on acrylic or glass according to the outer decorative printing dimensions.

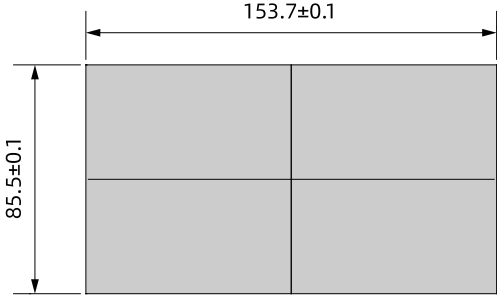


Figure 4-6 Outer decorative printing dimensions for the flush recessed mount type

3. Secure the device to the car wall panel using four M3 flange nuts, then align the outer decoration with the screen.

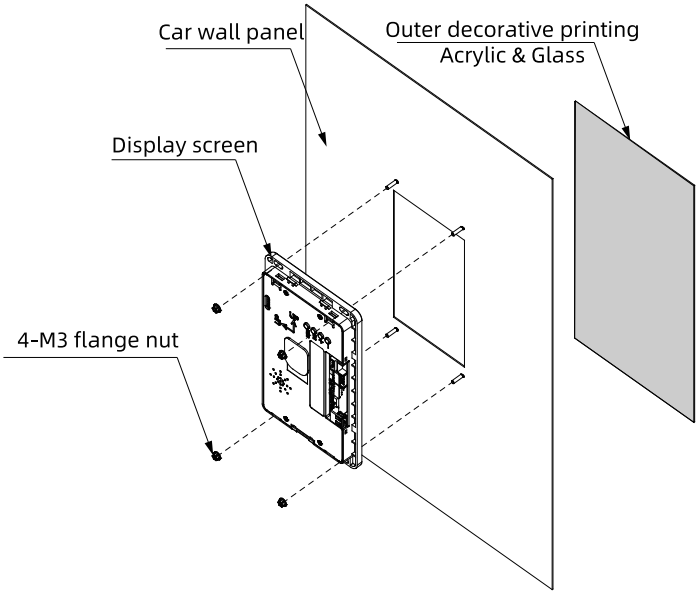


Figure 4-7 Flush recessed mount illustration

4. Check the installation effect.

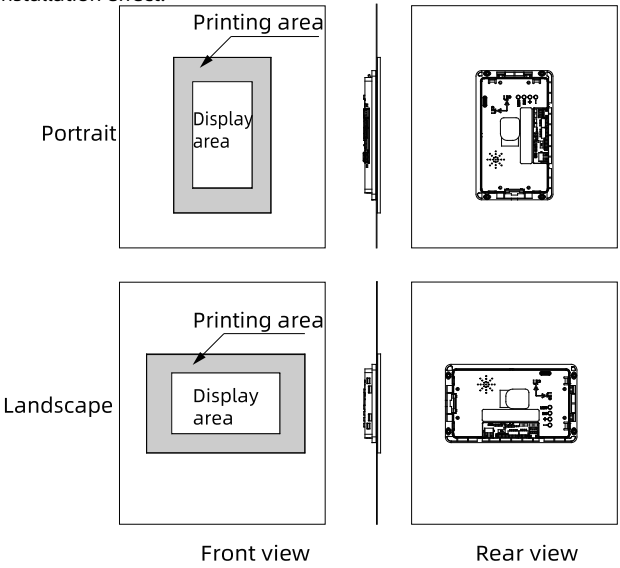


Figure 4-8 Installed view of flush recessed mount

CAUTION

The display has a grounding sign on the back and must be grounded safely.

4.2.3 Surface Mount

Note

The images in this chapter are for installation reference only. Please refer to the actual product for appearance.

1. Cut out an area on the car wall panel according to the product dimensions.

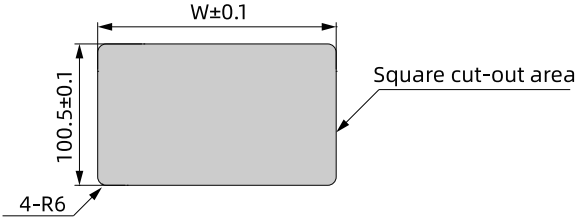


Figure 4-9 Hole dimensions

No.	Sheet metal thickness for surface mount (mm)	W size (mm)
1	1.0	168.8
2	1.5	169.4
3	2.0	170

2. Mount the snap-fit joint first, then fix the bottom circlip to the car wall panel.

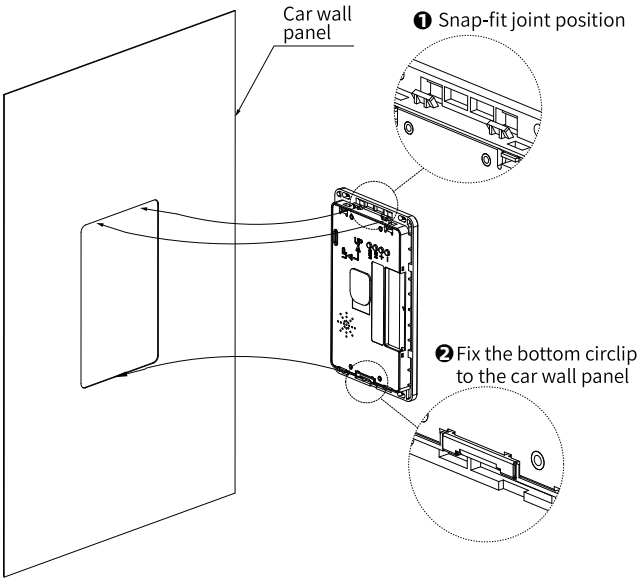


Figure 4-10 Surface mount illustration

3. Check the installation effect.

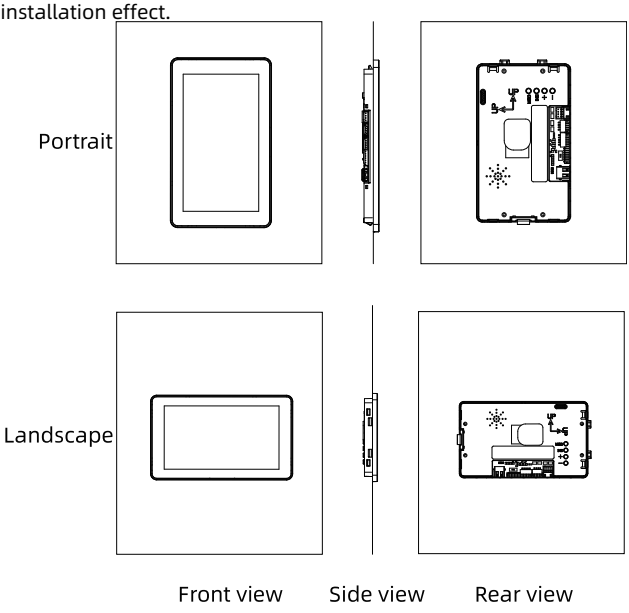


Figure 4-11 Surface mount completed



The display has a grounding sign on the back and must be grounded safely.

5 Commissioning and Operation

This chapter introduces basic commissioning procedure for the device. By following the instructions, you can perform basic commissioning to ensure that its basic functions can be used normally.

5.1 Inspection Before Commissioning

The operator is responsible for performing checks including but not limited to those listed in the following table in accordance with the recognized technical rules in the country of installation and with applicable regional guidelines. Tick after each check of the item.

No.	Item	Tick
1	Ensure that the power input terminals are securely connected with no loose or poor connections.	□
2	Before powering on the device, ensure that the power port wiring sequence is correct and that the voltage meets the standard 24 VDC (allowable range: 18 VDC to 36 VDC). If the measured value exceeds this range, disconnect the power supply immediately	□

5.2 Function Commissioning

Keys Description

The backplate has four physical keys, mainly used for menu selection and parameter setting.

Table 5–1 Keys description

Key	Function
MOD	• Enters the setup menu interface • Enters the next-level menu • Enters the menu editing mode
INC	• Exits the setup menu interface • Returns to the previous-level menu • Exits the menu editing mode
+	• Moves up through menu items • Increases the value of a menu item (holding down increases speed)
-	• Moves down through menu items • Decreases the value of a menu item (holding down increases speed)

Function Commissioning

Table 5–2 Function commissioning

Function		Description
Level I menu	Level II menu	
Floor setup	Bottom floor	Sets the lowest floor in auto demo mode, ranging from 1 (default value) to 56.
	Top floor	Sets the highest floor in auto demo mode, ranging from 1 to 56 (default value).
	Floor address	Range of 0 to 56, D2, D3, D4, and DH with default value 0. • For car use: When there is only one device inside the car, it should be set to 0; when there are multiple devices, only one can be set to 0, and the others should be set to any address of D2, D3, or D4. • For hall use: Numbers 1 to 56 are used for hall call scenarios, setting the physical floor. DH is used when only the floor number is displayed at the landing floor, for example on the lintel.
Display setup	Display brightness	Sets the normal operating brightness of the screen, ranging from 10 to 100.
	Standby brightness	Sets the sleep brightness of the screen, ranging from 10 (default value of 10) to 100. When the device does not receive the elevator operation signal within the sleep time, it automatically enters the sleep mode. The brightness will drop to this value. If the elevator control cabinet supports energy-saving mode, after the elevator enters this mode, the device will also automatically enter the sleep state.
	Sleep time	Sets the time (in minutes) after which the device will automatically enter the sleep mode, ranging from 0 to 120 minutes, with a default value of 1 minute. If set to 0, it indicates that the sleep mode will never be applied.
	Welcome message	Switch for displaying the welcome message, which is enabled by default.
	Logo	Switch for displaying the logo, which is disabled by default.

Function		Description
Level I menu	Level II menu	
Multimedia setup	Minimum carousel image No.	Sets the minimum image number for the multimedia area, ranging from 0 to 5, with a default value of 1.
	Maximum carousel image No.	Sets the maximum image number for the multimedia area, ranging from 0 to 5, with a default value of 5.
	Carousel speed (s)	Sets the speed at which advertisement images switch in the carousel, ranging from 5 to 60 seconds, with a default value of 10 seconds.
	Video play	Not supported.
	Background music	Switch for setting background music, which is disabled by default.
	Gong	Switch for setting voice announcement, which is disabled by default.
	Multimedia volume	Sets the volume level, ranging from 0 to 100.
Time setup	Date (Year)	Sets the year, ranging from 0 to 99.
	Date (Month)	Sets the month, ranging from 1 to 12.
	Date (Day)	Sets the day, ranging from 1 to 31.
	Time (Hour)	Sets the hour, ranging from 0 to 23.
	Time (Minute)	Sets the minute, ranging from 0 to 59.
	Display mode	The time display mode includes the following types: • None: Hides the display of date, time, and day of the week. • Time: Displays only the date + time + week.
	24-Hour time	Switch for 24-hour format display, which is enabled by default.

Function		Description
Level I menu	Level II menu	
System Settings	Language	Sets the language , supporting switching between Chinese and English, with Chinese as the default.
	Display direction	Sets the display orientation, supporting switching between landscape and portrait modes.
	UI	Displays UI settings, supports switching between two UIs. The default is UI 1 (UI 2 requires custom development).
	Operation mode	Sets the operating mode, supporting auto demo mode and normal mode, with normal mode as the default.
	Arrow scrolling speed	Sets the arrow scrolling frame animation speed, supporting five options: stationary, slow, medium, fast, and fastest, with medium speed as the default.
	Load (x 1 kg)	Sets the elevator load limit, ranging from 0 kg to 9999 kg, with a default value of 900, meaning 900 kg. When the load is set to 0, both the load and passengers are not displayed.
	Passengers	Sets the elevator person limit, ranging from 0 to 99, with a default value of 12. When the limit is set to 0, both the load and passengers are not displayed.
Status code	101	Current communication baud rate for the time period, ranging from 1 to 38400 and 0 to 9600.
	102	Longest interval time for current data frames, in ms.
	103	Current packet loss rate in communication with the control cabinet.
	104	Current number of baud rate switchings in communication with the control cabinet.
	201	Current running duration of MCU for the time period.
	202	MCU watchdog reset times (retentive at power failure).
	301	Current running duration of MPU for the time period.
	302	MPU reset times (retentive at power failure).
	303	Timeout time of the last MPU reset, in ms.
	304	Current packet loss rate in communication with the MPU.

Function		Description
Level I menu	Level II menu	
Customer number	No	Displays the customer or manufacturer protocol number. This parameter is read-only. If you need to modify it, use Monarch App.
Security protocol	No	Option for encrypted or non-encrypted models, with encryption enabled by default. • If an encryption chip is installed on the device setting it to OFF will disable the security protocol; otherwise, it will be enabled. • If no encryption chip is installed, this parameter is invalid. During encryption settings, judgment of the self-authentication result for encryption is added. If encryption self-authentication fails (for example, due to key not programmed, missing encryption chip, or other issues with the encryption circuit), switching to the encryption option will not be possible.

Viewing Version

- Firmware version: View in the upper-left corner of the startup screen after restarting the device. It is automatically hidden after restart completion.



Figure 5-1 Viewing firmware version

- MCU software version: View at the top of the settings menu.

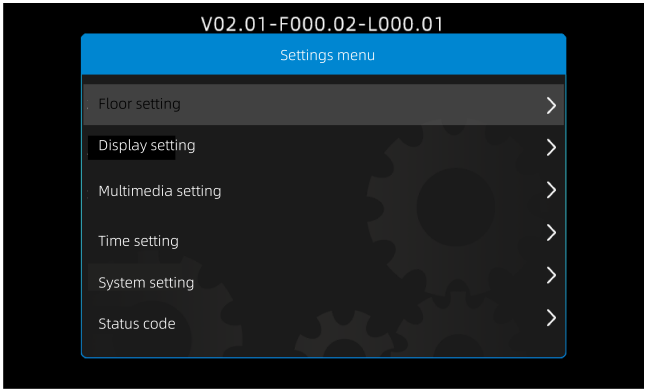


Figure 5-2 Viewing MCU software version

6 Theme File Change

6.1 Replacement Through USB Cable

Replace the background image, ad image, logo, welcome message, background music, and voice announcement files of the device.

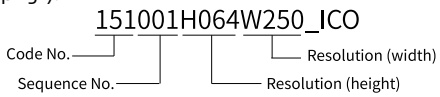
Prepare the type-A dual-male USB cable and a computer.



Figure 6-1 Type-A dual-male USB cable

1. With the device powered off, use the USB cable to connect the device to a USB port on your computer.
2. Power on the device. After the device starts up, **"UPLOADING"** is displayed, and the USB drive appears on the computer.
3. Prepare new theme file according to the requirements. You can check information by right-clicking on the file and selecting **"Properties>Details"**.

Table 6–1 Theme file format requirements

Type	Requirement
Background image, Ad image, Logo, Welcome message	• Ensure the new image matches the original one in **display orientation**, **name**, and **format**. • The image must be in **PNG** format and **32-bit depth**, with resolution requirements indicated in the file name ("No. + Sequence + Height + Width +_ICO.png").  Figure 6-2 Image naming convention (example) • For theme image naming details, see *" Appendix" on page 44*.
Background music	**The file name** and **format** must be:**60.wav**.

<table>
<tr><th>Type</th><th>Requirement</th></tr>
<tr><td>Voice announcement file</td><td>

File duration: must be within 5s.
File format: WAV format with a bit rate of 705 kbps; otherwise, the voice announcement will not play.
File names:

<table>
<tr><th colspan="2">English</th></tr>
<tr><th>Floor</th><th>File name</th></tr>
<tr><td>1 to 56</td><td>65.wav to 120.wav</td></tr>
<tr><td>3A</td><td>121.wav</td></tr>
<tr><td>13A</td><td>122.wav</td></tr>
<tr><td>17A</td><td>123.wav</td></tr>
<tr><td>-1</td><td>125.wav</td></tr>
<tr><td>-2</td><td>126.wav</td></tr>
<tr><td>-3</td><td>127.wav</td></tr>
<tr><td>-4</td><td>128.wav</td></tr>
</table>
Note
If the new voice announcement file format does not meet the requirements, it is recommended to use Format Factory for format conversion and set the Sampling rate to 22050 Hz.
</td></tr>
</table>

4. Extract the **pngTobin** tool 

to the desktop.

Note

- Contact the device supplier to obtain the **pngTobin** tool, or visit *https://www.inovance.com* to search and download **pngTobin**.
- This tool cannot be extracted to a path containing Chinese characters.

5. Copy the prepared theme file to **"pngTobin> TGUS_SET"** directory, right-click on **PngToBin** and select **"Run with PowerShell"**. The processed new theme file will be automatically saved in the **"TGUS_TF"** folder.

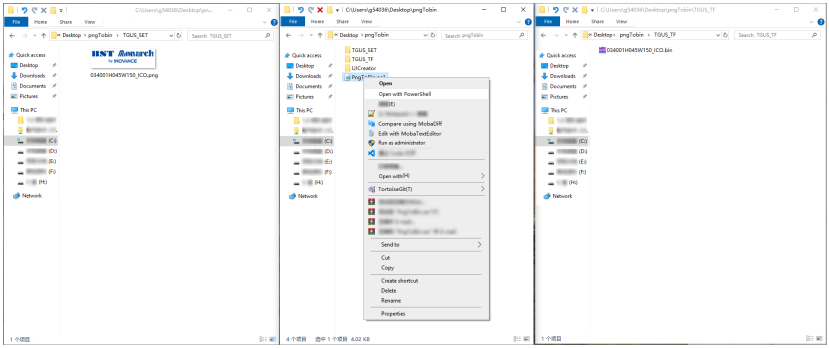


Figure 6-3 Processing the theme file

6. Open the**"TGUS_TF"** folder and replace the old theme file with the new (the file automatically saved in the **TGUS_TF** folder after being processed with **PngToBin**).

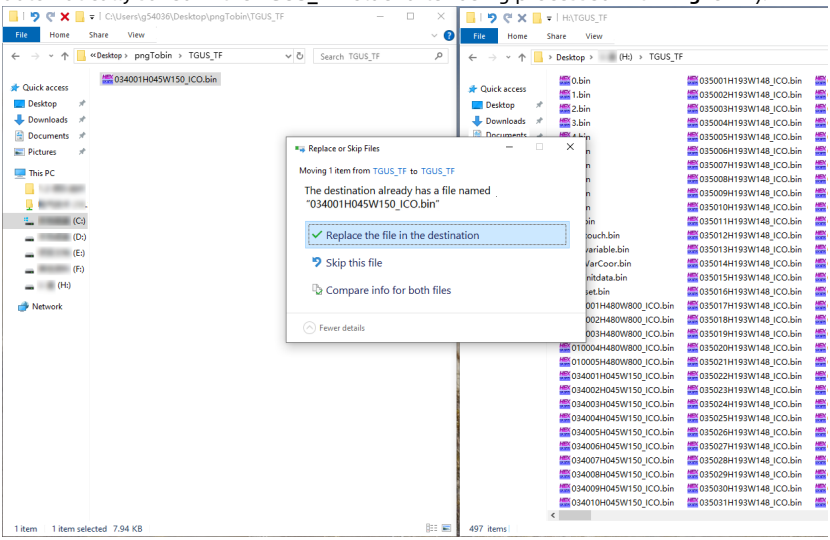


Figure 6-4 Replacing the old theme file

7. After completing the replacement, click to eject the drive and remove the USB cable.
8. Manually restart the device and check the display effect.

Description	Solution
Incorrect image display orientation	Check whether the image needs to be rotated.
Image not displayed	Check whether the image file name and format are correct and consistent with the image being replaced.

Description	Solution
Background music play failure	Check whether the music file name and format are correct.
Voice announcement error	Check the audio file duration, format, and file name. Ensure they are consistent with the old file being replaced.

6.2 Replacement Through a USB Flash Drive

Replace the background image, ad image, logo, welcome message, background music, and voice announcement files of the device. The USB drive has a maximum capacity of 32GB and is formatted as FAT32.

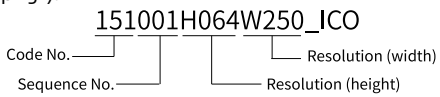
Note

Some low-cost USB drives use processing chips of unknown brands, which may lead to upgrade failures. It is recommended to use USB drives from well-known brands, such as Kingstone and SanDisk.

---

1. Prepare the USB drive in advance and insert the USB drive into the computer.
2. Create a folder named **"bstupdate>TGUS_TF"** on the USB drive.
3. Prepare new theme file according to the requirements. You can check information by right-clicking on the file and selecting **"Properties>Details"**.

Table 6–2 Theme file format requirements

Type	Requirement
Background image, Ad image, Logo, Welcome message	• Ensure the new image matches the original one in **display orientation**, **name**, and **format**. • The image must be in **PNG** format and **32-bit depth**, with resolution requirements indicated in the file name ("No. + Sequence + Height + Width +_ICO.png").  Figure 6-5 Image naming convention (example) • For theme image naming details, see *" Appendix" on page 44*.
Background music	**The file name** and **format** must be:**60.wav**.

<table>
<tr><th>Type</th><th>Requirement</th></tr>
<tr><td>Voice announcement file</td><td>

File duration: must be within 5s.
File format: WAV format with a bit rate of 705 kbps; otherwise, the voice announcement will not play.
File names:

<table>
<tr><th colspan="2">English</th></tr>
<tr><th>Floor</th><th>Name</th></tr>
<tr><td>1 to 56</td><td>65.wav to 120.wav</td></tr>
<tr><td>3A</td><td>121.wav</td></tr>
<tr><td>13A</td><td>122.wav</td></tr>
<tr><td>17A</td><td>123.wav</td></tr>
<tr><td>-1</td><td>125.wav</td></tr>
<tr><td>-2</td><td>126.wav</td></tr>
<tr><td>-3</td><td>127.wav</td></tr>
<tr><td>-4</td><td>128.wav</td></tr>
</table>
Note
If the new voice announcement file format does not meet the requirements, it is recommended to use Format Factory for format conversion and set the Sampling rate to 22050 Hz.
</td></tr>
</table>

4. Extract the **pngTobin** tool 

to the desktop.

Note

- Contact the device supplier to obtain the **pngTobin** tool, or visit *https://www.inovance.com* to search and download **pngTobin**.
- This tool cannot be extracted to a path containing Chinese characters.

5. Copy the prepared theme file to **"pngTobin>TGUS_SET"** directory, right-click on **PngToBin** and select **"Run with PowerShell"**. The processed new theme file will be automatically saved in the **"pngTobin>TGUS_TF"** folder.

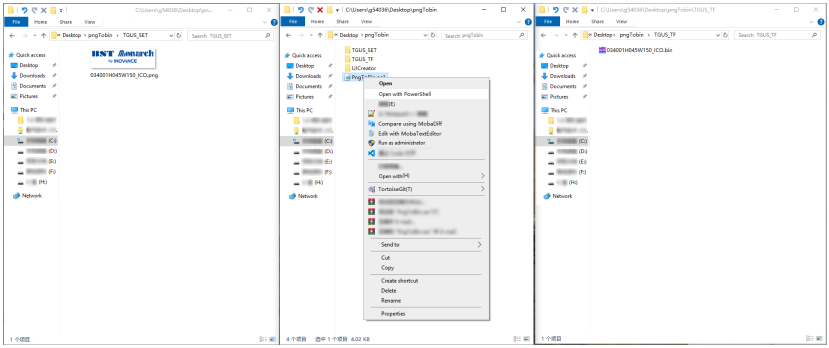


Figure 6-6 Processing the theme file

6. Open the **"bstupdate>TGUS_TF"** folder on the USB drive, and place the new theme file (the file automatically saved in the **TGUS_TF** folder after being processed with the **PngToBin** tool) into this folder.
7. Remove the USB drive from the computer, then insert it into the device's USB port and restart the device. The device will display the upgrade interface.
8. After completing the upgrade, manually restart the device and check the display effect.

Description	Solution
Incorrect image display orientation	Check whether the image needs to be rotated.
Image not displayed	Check whether the image file name and format are correct and consistent with the image being replaced.
Background music play failure	Check whether the music file name and format are correct.
Voice announcement error	Check the audio file duration, format, and file name. Ensure they are consistent with the old file being replaced.

7 Software Resources Upgrade

7.1 Upgrading Through USB Cable

Prepare the type-A dual-male USB cable and a computer.



Figure 7-1 Type-A dual-male USB cable

1. With the device powered off, use the USB cable to connect the device to a USB port on your computer.
2. Power on the device. After the device starts up, **"UPLOADING"** is displayed.
3. A drive pops up on the computer, and open it.
4. Copy the new **"TGUS_TF"** interface resource file into this drive, replacing the old one.

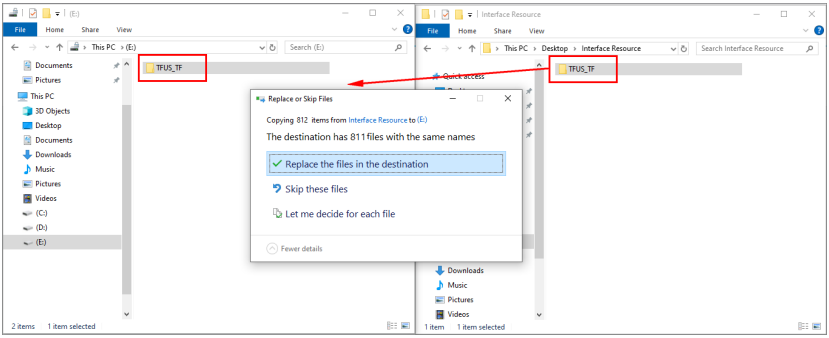


Figure 7-2 Replace the old interface file

5. After completing the replacement, click to eject the drive and remove the USB cable.
6. Manually restart the device and check the display effect.

Note

If a display error occurs, check whether the name and path of the new interface file is correct, and ensure it is consistent with the old interface file being replaced.

7.2 Upgrading with a USB Flash Drive

The recommended size of the USB drive is smaller than 32 GB and the format is FAT32.

Note

Some low-cost USB drives use processing chips of unknown brands, which may lead to upgrade failures. It is recommended to use USB drives from well-known brands, such as Kingstone and SanDisk.

---

1. Prepare the USB drive in advance and insert the USB drive into the computer.
2. Create a folder named **"bstupdate"** on a USB flash drive. Copy the new **"TGUS_TF"** interface resource files into **"bstupdate"**.
3. Remove the USB drive from the computer, then insert it into the device's USB port. After the device finishes upgrading, it will automatically restart and display the updated interface.
4. Remove the USB drive and check the display.

Note

If a display error occurs, check whether the name and path of the new interface file is correct, and ensure it is consistent with the old interface file being replaced.

---

8 Maintenance

8.1 Daily Maintenance Items

- Do not expose this product to rain or place it near water. If water stains appear on the surface, which can cause touch distortion, wipe it dry with a dry cloth or paper towel before resuming normal use.
- Do not install the product in unstable positions, such as on wobbling mounting brackets or on inclined surfaces.
- Do not drop the product or subject it to shocks.
- The touch surface of this product requires regular cleaning to ensure it remains clean and tidy.
- Do not hit the surface with force.
- Do not pry or force the edges of the frame open.

8.2 Daily Inspection and Cleaning Items

The operator is responsible for performing checks including but not limited to those listed in the following table in accordance with the recognized technical rules in the country of installation and with applicable regional guidelines. Tick after each check of the item.

Table 8–1 Daily inspection items

No.	Item	Tick
1	Ensure that the installation environment does not change.	☐
2	The device has normal operation and display.	☐
3	The wiring does not come loose.	☐
4	The screws on the external frame are secure.	☐

Table 8–2 Daily Cleaning Items

No.	Item	Tick
1	Clean dust and moist off the device surface periodically.	☐

8.3 Battery Replacement

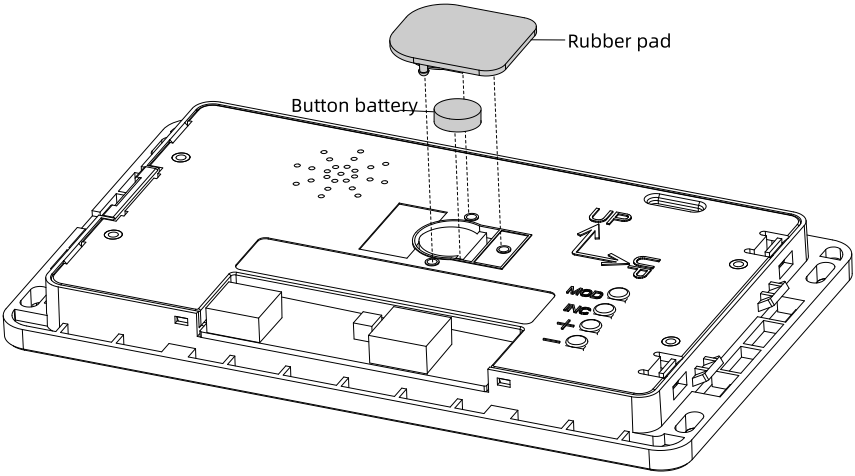


Figure 8-1 Battery replacement

CAUTION

After replacing the button battery, be sure to reinstall the battery protective rubber to prevent corrosion or short circuit damage caused by moisture or dust entering the battery.

9 Common Fault Troubleshooting

Table 9–1 Common fault troubleshooting

Name	Cause	Diagnosis	Troubleshooting
During installation and commissioning, floors and arrows are not displayed.	The wiring is incorrect or the cable is connected improperly.	Check whether all connection lines match the defined pinout of the device; inspect COB board and CTB wiring for any abnormalities.	Check whether the communication lines are incorrectly wired (reversed or incorrect sequence). • If so, reconnect the lines correctly. • If problems persist, connect the device to another normally operating elevator control cabinet and check whether the fault is displayed. If the display is normal, check the original control cabinet to ensure that it can operate properly.
	The device and control cabinet customer protocol codes do not match.	Go to the settings menu and check the **"Customer number"** in the menu.	Perform on-site modification using the Monarch App or provide the work orders on the back of the product to the device supplier. Scan and download the Monarch App.
	The on-site control cabinet is an encrypted system, but the device encryption authentication is disabled.	Go to the display settings menu and check whether the **"Security protocol"** is enabled.	Modify the parameters in the settings menu to enable the **"Security protocol"**.
	The on-site control cabinet is an encrypted system, but the device encryption self-authentication fails.	Go to the display settings menu and check whether the **"Security protocol"** is disabled in the menu and cannot be manually enabled.	Provide the work orders on the back of the product to the device supplier.
	Address settings conflict for multiple devices installed within the elevator car.	When there is only one device inside the car, it should be set to 0; when there are multiple devices, only one can be set to 0, and the others should be set to any address of D2, D3, or D4.	Go to the display settings menu and check the parameters in **"Floor setting>Floor address"** in the menu. If the parameters are incorrect, set them again.

Name	Cause	Diagnosis	Troubleshooting
When the control cabinet is encrypted during running, the floor arrow area displays the up arrow and "000", "-" or "==". It can be temporarily fixed through restarting the system but reoccurs after 7 days.	The floor address setting is incorrect.	Go to the display settings menu and check whether the **"Security protocol"** is enabled. Check whether the device address setting is correct. When there is only one device inside the car, it should be set to 0; when there are multiple devices, only one can be set to 0, and the others should be set to any address of D2, D3, or D4.	Go to the display settings menu and check the parameters in **"Floor setting>Floor address"** in the menu. If the parameters are incorrect, set them again. Modify the parameters in the settings menu to enable the **"Security protocol"**.
	Device encryption authentication is not enabled.	Go to the display settings menu and check whether the **"Security protocol"** is enabled.	Go to the display settings menu and enable **"Security protocol"**.
	The on-site control cabinet is an encrypted system, but the device encryption self-authentication fails.	Go to the display settings menu and check whether the **"Security protocol"** is disabled in the menu and cannot be manually enabled.	Provide the work orders on the back of the product to the device supplier.
	The on-site control cabinet is an encrypted system, with more than two peripheral devices that require encryption authentication mounted or connected on the car COP bus, such as display, and A0S board.	For the Monarch encryption system, it must be ensured that only one peripheral device gets involved in the encryption authentication on the car COP bus.	Provide the work orders on the back of the product to the device supplier.
	The device and control cabinet customer protocol codes do not match.	Go to the settings menu and check the **"Customer number"** in the menu.	Perform on-site modification using the Monarch App or provide the work orders on the back of the product to the device supplier.
Time display is inaccurate.	Time has not been calibrated.	Go to the display setting menu and check the **"Time setting"** in the menu, where you can set the year, month, day, hour, minute, and display mode separately.	
	The battery level is low.	Check whether the time differs greatly from the previous setting. If yes, recalibrate the time. If the issue persists after three power cycles, it indicates that the battery level is low and replacement is required.	Contact the device supplier to purchase the CR1220 button battery for replacement.

Name	Cause	Diagnosis	Troubleshooting
The display freezes or there is no display after the multimedia image is updated.	The newly imported multimedia image format or specification do not meet the requirements.	Check the image against the specified requirements.	Modify the image format or specification, delete incorrect image, and re-import.
	The newly imported multimedia image name does not meet the requirements.	Check whether the name of the newly imported image matches the name of the replaced image.	Ensure that the names of the new and replaced images match.

10 Appendix

The system supports three UIs, using the UI2 by default.

10.1 UI2 (Default)

Background image

Landscape	Portrait
	
1.PNG	9.PNG

Logo

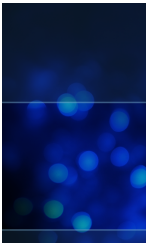
Landscape	Portrait
	
024001H045W100_ICO.png	044001H100W045_ICO.png

Welcome message

Landscape	Portrait
	
028002H040W300_ICO.png	048002H300W040_ICO.png

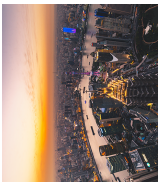
10.2 UI1

Background image

Landscape	Portrait
	
1.PNG	9.PNG

Ad image

Landscape				
				
029001H406 W515_ICO.png	029002H406 W515_ICO.png	029003H406 W515_ICO.png	029004H406 W515_ICO.png	029005H406 W515_ICO.png

Portrait				
				
049001H480 W420_ICO.png	049002H480 W420_ICO.png	049003H480 W420_ICO.png	049004H480 W420_ICO.png	049005H480 W420_ICO.png

Logo

Landscape	Portrait
	
024001H045W100_ICO.png	044001H100W045_ICO.png

Welcome message

Landscape	Portrait
	
028002H040W300_ICO.png	048002H300W040_ICO.png

10.3 UI3

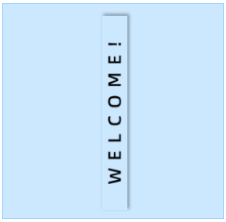
Background image

Landscape	Portrait
	
1.PNG	9.PNG

Logo

Landscape	Portrait
	
034001H045W100_ICO.png	054001H100W045_ICO.png

Welcome message

Landscape	Portrait
	
038002H040W300_ICO.png	058002H300W040_ICO.png

11 Service and Support

Should you encounter a safety accident during the use or operation of the product, or face challenges in operating and maintaining the equipment, which remain unresolved after the relevant documentation is consulted, we provide multiple channels to ensure prompt resolution:

- Channel #1: Contact service@inovance.com.
- Channel #2: Visit https://www.inovance.com/global to access document downloads, after-sales support, spare parts ordering, repair applications, and authenticity verification services.
- Channel #3: Download My Inovance app (https://zshc-eu.inovance.com/download-pc/) where you can access products info and documentation, and query product parameters.

We are committed to providing you with quick and professional technical support, and we look forward to your satisfaction and trust.

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