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MCTC-HCB-T647/S Multimedia Display (Serial Port Type-A)

User Guide

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

Data code PS00017941A01

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 of revision	Version	Description
January 2026	A01	Deleted parallel port information.
September 2025	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 drivestate, 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 longersupported or the latest version of the program is not applied, customers are atincreased risk of cyber-attacks.
- Take proper protection measures (including but not limited to deploying antivirussoftware, firewall, WAF, IPS/IDS, situational awareness system, IDverification, and data encryption) to prevent files in the mobile storage devicefrom being damaged by malware and protect products, networks, systems, andinterfaces from unauthorized access, disturbance, intrusion, data disclosure, orinformation theft.
- Check all safety-related interfaces and settings after commissioning.

2 Product Information

2.1 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)
LCD type	RGB
Power supply voltage	18 VDC to 36 VDC
Rated/Maximum power consumption	5 W/6 W
Rated/Maximum current (24 V)	200 mA/250 mA
Nominal capacity	• Drive 1: 10 MB • Drive 2: 128 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

2.2 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.

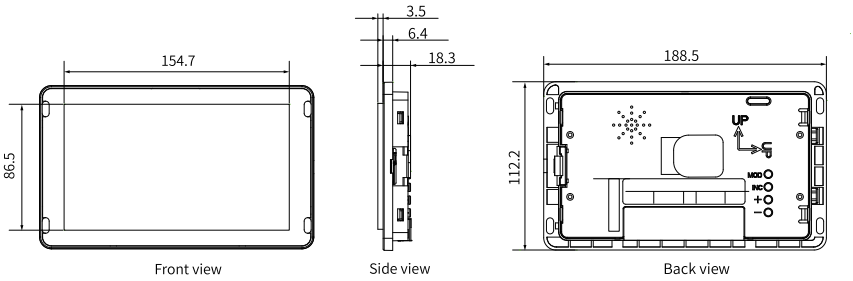


Figure 2-1 Product dimensions (unit: mm)

2.3 Appearance

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



Landscape Portrait

Figure 2-2 Product appearance

2.4 System Connection

Note

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

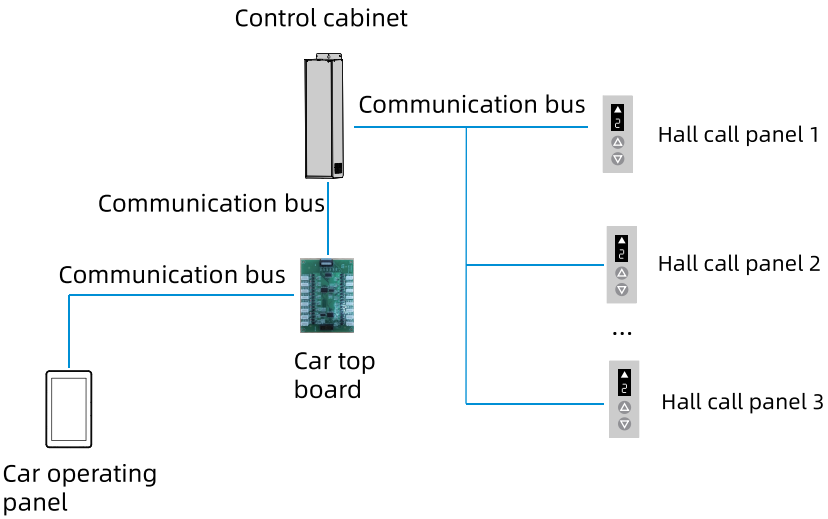


Figure 2-3 System Connection

3 Preparations Before Installation

3.1 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.

CAUTION

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

3.2 Installation Environment Requirements

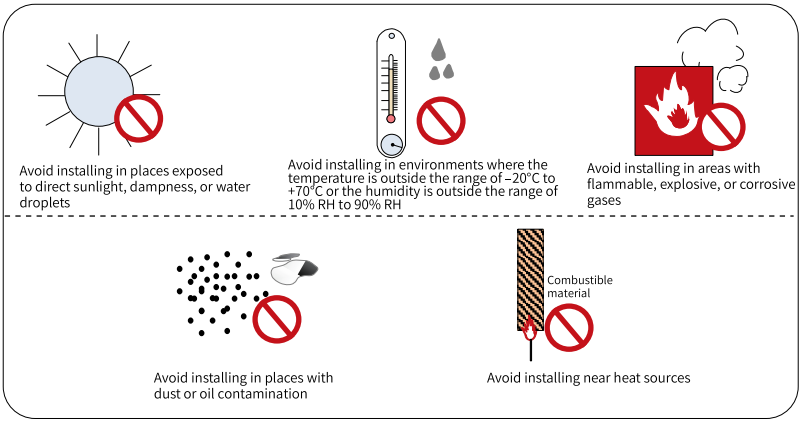


Figure 3-1 Installation environment requirements

3.3 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 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.	□

5 Installation Guidelines

5.1 Port Layout and Description

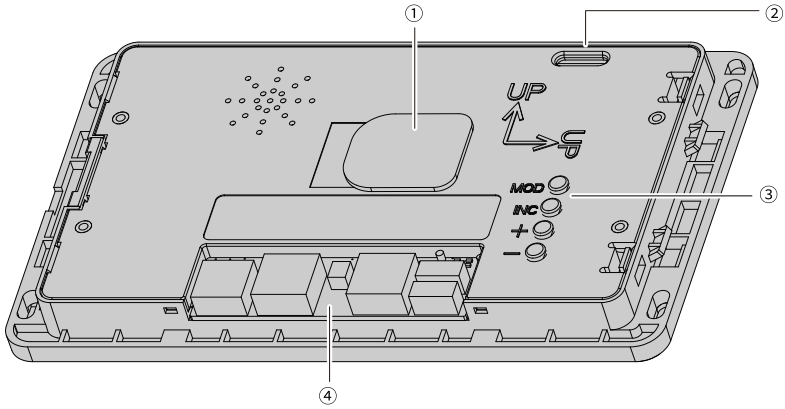


Figure 5-1 Port layout

Table 5–1 Port description

No.	Port	Description
①	Battery	Button battery; see *"9.3 Battery Replacement" on page 37* for replacement instructions.
②	Programming port	Performs programming or update on the deviceprograms.
③	Modbus	• 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)

No.	Port	Description
④	USB	Updates device resources.
	Elevator lock and fire emergency (optional)	ST, 24OUT, 24OUT, and XF
	Up button (optional)	Connects the up button. ST, 24OUT, U-IN, UP
	Down button (optional)	Connects the down button. ST, 24OUT, DN-IN, DN
	DIP switch	Enables or disables the termination resistor. • 1: Termination resistor CAN • 2: Termination resistor RS485
	CAN (optional)	CAN serial communication. 24V, CANH, CANL, GND
	RS485	RS485 serial communication. 24V, MOD+, MOD-, GND
	RS232	RS232 serial communication. 24V, TX, RX, GND

5.2 Installation Procedure

The devices come in surface mounting and embedded mounting types.

5.2.1 Embedded Mounting

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

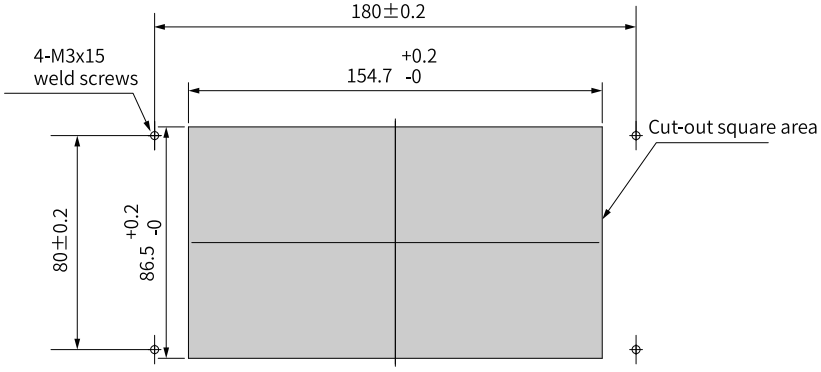


Figure 5-2 Hole dimensions (unit: mm)

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

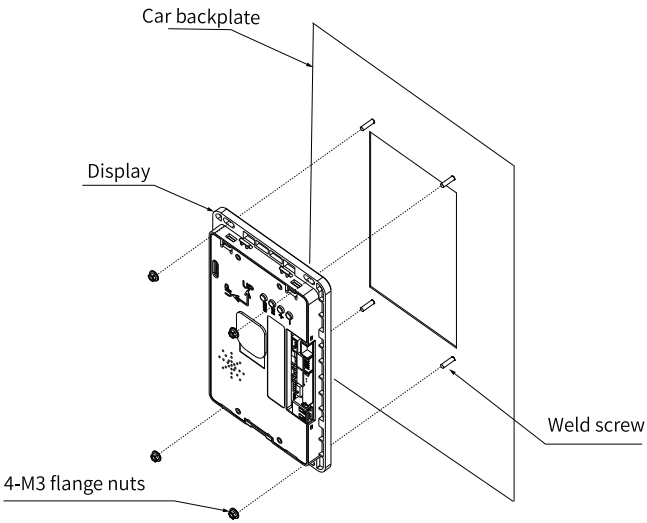


Figure 5-3 Securing the device to the car wall panel

3. Check the installation effect.

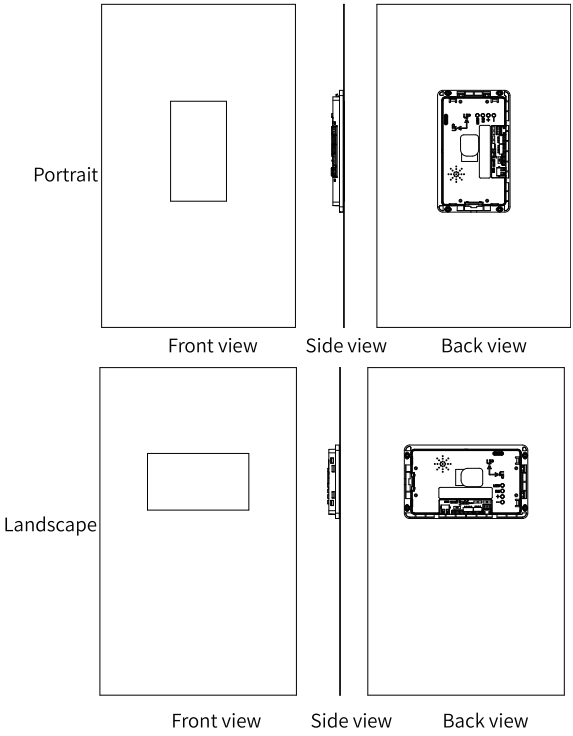
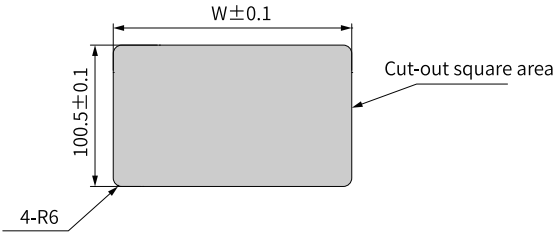


Figure 5-4 Checking the installation effect

5.2.2 Surface Mounting

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



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

Figure 5-5 Hole dimensions

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

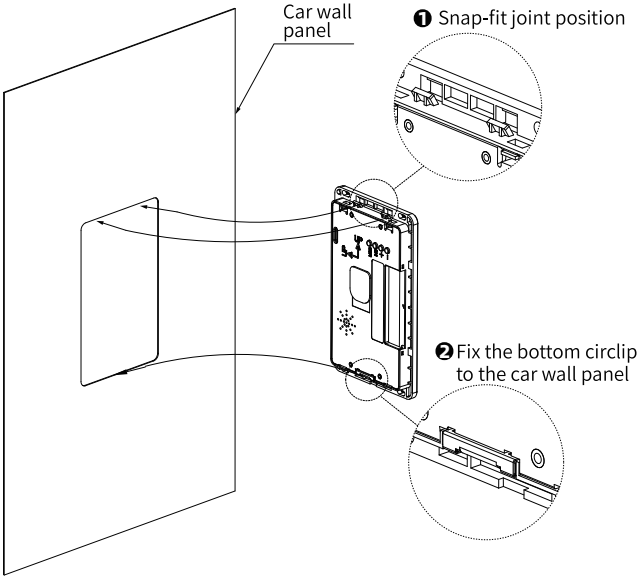


Figure 5-6 Securing the device to the car wall panel

3. Check the installation effect.

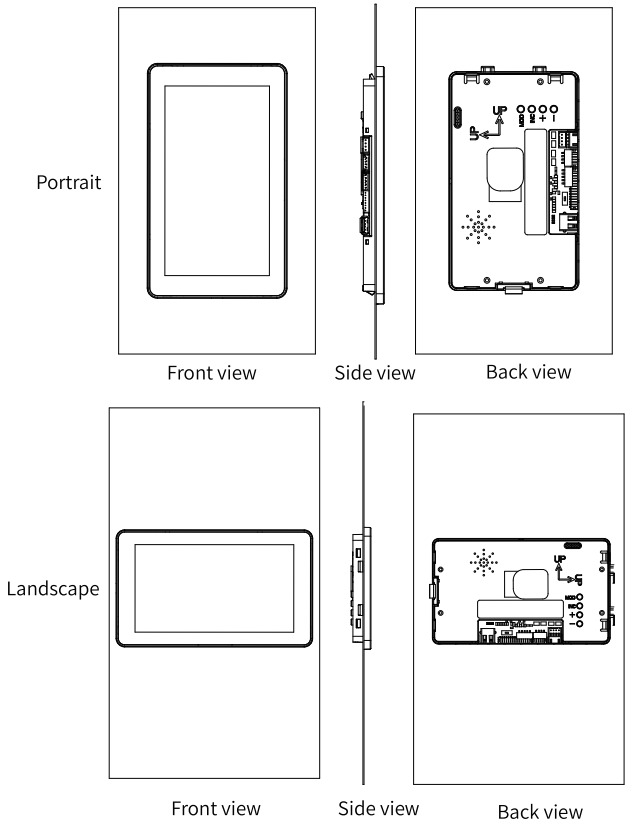


Figure 5-7 Checking the installation effect

6 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.

6.1 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	□

6.2 Function Commissioning

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

Table 6–1 Keys description

Key	Function
Modbus	• 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)

Table 6–2 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 50.
	Top floor	Sets the highest floor in auto demo mode, ranging from 1 to 50 (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 disabled 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 32, with a default value of 1.
	Maximum carousel image No.	Sets the maximum image number for the multimedia area, ranging from 0 to 32, 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 enabled by default.
	Gong	Switch for setting voice announcement, which is enabled 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. • Week: Displays only the date + day of the week. • Time: Displays only the date + time. • Week + Time: Displays 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.
	Theme	Sets the display theme, supporting switching between two themes, with Theme 1 as the default.
	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.

7 Theme Change

7.1 Change Using USB Cable

Replace the background theme, ad image, logo, and so on.

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. After connecting, power on the device. Once the device has started up, it will display **"usb device is connecting…"**.
3. The computer will recognize two drives. Open the drive with the larger memory capacity.

7.1.1 Theme Background Image Change

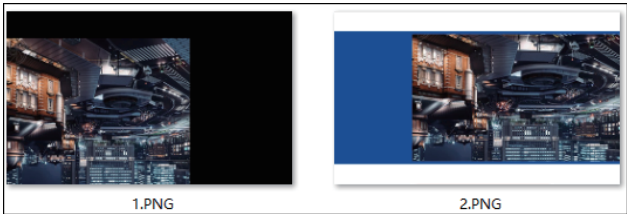
1. Create the new theme background image according to the requirements.

Note

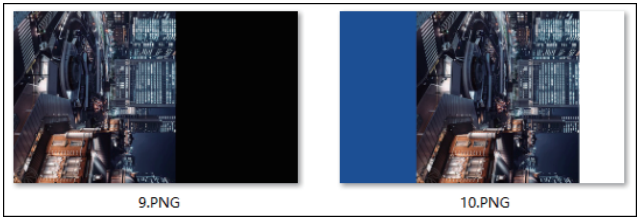
- The image must be in png format, with a resolution of 800 x 480 and 32-bit color depth.
- Ensure the new image matches the original one in **display orientation**, **name**, **and format**.
- You can check image information by right-clicking on the image file and selecting **"Properties>Details"**.

---

2. Open the **"TGUS_TF"** folder on the drive and replace the old image with the new one.



Landscape theme 1 background　　Landscape theme 2 background



Portrait theme 1 background　　Portrait theme 2 background

Figure 7-2 Theme background change

3. After the replacement is complete, eject the drive from the computer. When the device displays **"···finished···"**, the update is complete, and the USB cable can then be disconnected.
4. Manually restart the device and check the display effect.

Note

- If the image is displayed in the wrong orientation, check whether the image needs to be rotated.
- If the image fails to be displayed, check whether the image filename and format are correct and consistent with the image being replaced.

7.1.2 Ad Image, Logo or Welcome Message Change

1. Prepare new images according to the requirements.

Note

- Ensure you replace the images corresponding to landscape or portrait orientation as required. Make sure that the new images have the same naming, format, and resolution as the ones being replaced. See *" Appendix" on page 41* for the default images built into the device.
- Image format requirement: png format, 32-bit color depth. See the image name for resolution requirements. The image naming convention is "No. + Sequence + Height + Width +_ICO.png". You can view image information by right-clicking and selecting "Properties > Details".

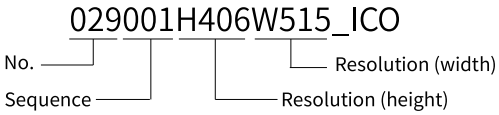


Figure 7-3 Image naming (example)

2. Open the **"TGUS_TF"** folder on the drive and replace the old image with the new one.
3. After the replacement is complete, eject the drive from the computer. When the device displays **"···finished···"**, the update is complete, and the USB cable can then be disconnected.
4. Manually restart the device and check the display effect.

Note

- If the image is displayed in the wrong orientation, check whether the image needs to be rotated.
- If the image fails to be displayed, check whether the image filename and format are correct and consistent with the image being replaced.

7.1.3 Background Music Change

1. Prepare the new background music according to the requirements.

Note

The file name and format must be 60.mp3.

2. Open the **"TGUS_TF"** folder on the drive and replace the background music with the new one.

3. After the replacement is complete, eject the drive from the computer. When the device displays **"···finished···"**, the update is complete, and the USB cable can then be disconnected.
4. Manually restart the device and check the play effect.

Note

If the music cannot be played, check for correct file name and format.

7.1.4 Voice Announcement File Change

1. Prepare new voice announcement file according to the requirements.

Note

- File duration: Keep within 5s.
- File format: WAV **format** with a **bit rate** of 705 kbps; otherwise, the voice announcement will not play.
- File naming:
  - **Floors 1 to 50 (In Chinese)**: **1.wav** to **50.wav**;
  - **Floor 3A (In Chinese)**: **57.wav**;
  - **Floor 13A (In Chinese)**: **58.wav**;
  - **Floor 17A (In Chinese)**: **59.wav**;
  - **Floor 1 (In Chinese)**: **61.wav**;
  - **Floor 2 (In Chinese)**: **62.wav**;
  - **Floor 3 (In Chinese)**: **63.wav**;
  - **Floor 4 (In Chinese)**: **64.wav**;
  - **Floors 1 to 50 (In English)**: **65.wav** to **114.wav**;
  - **Floor 3A (In English)**: **121.wav**;
  - **Floor 13A (In English)**: **122.wav**;
  - **Floor 17A (In English)**: **123.wav**;
  - **Floor 1 (In English)**: **125.wav**;
  - **Floor 2 (In English)**: **126.wav**;
  - **Floor 3 (In English)**: **127.wav**;
  - **Floor 4 (In English)**: **128.wav**;

---

2. (Optional) If the file format does not meet the requirements, use the software Format Factory to convert and set the sampling rate to 22050 Hz.
3. Open the **"TGUS_TF"** folder on the drive and replace the audio file with the new one.

4. After the replacement is complete, eject the drive from the computer. When the device displays **"···finished···"**, the update is complete, and the USB cable can then be disconnected.
5. Manually restart the device and check whether the voice announcements are working properly.

Note

If a broadcast error occurs, check the audio file duration, format, and filename. Ensure they are consistent with the old file being replaced.

7.2 Change Using a USB Flash Drive

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 the **"bstupdate>TGUS_TF"** directory path on the USB drive.

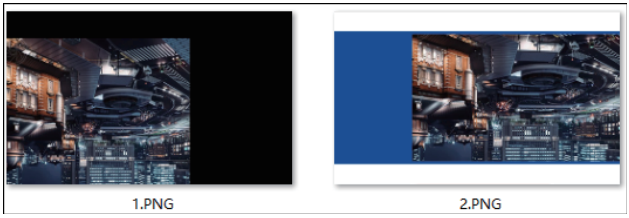
7.2.1 Theme Background Image Change

1. Prepare new images according to the requirements.

Note

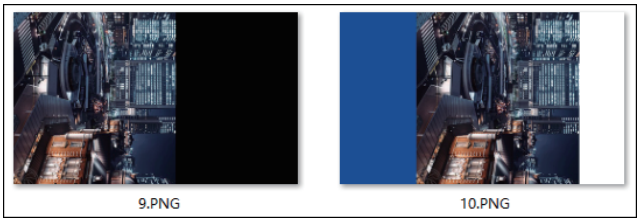
- **Image format requirement: PNG format, resolution 800 x 480, 32-bit color depth.**
- **Ensure that the display orientation of the new images matches that of the images being replaced.**
- Pay attention to the naming and format of the new images, ensuring they are consistent with the originals. You can check image information by right-clicking on the image file and selecting "Properties > Details".

2. Open the **"TGUS_TF"** folder and place the new image file inside it.



Landscape theme 1 background

Landscape theme 2 background



Portrait theme 1 background

Portrait theme 2 background

Figure 7-4 Background Theme Change

3. Remove the USB drive from the computer, then insert it into the device's USB port. When the device displays **"...successful..."**, the update is complete, and the USB drive can then be removed.
4. Manually restart the device and check the display effect.

Note

- If the image is displayed in the wrong orientation, check whether the image needs to be rotated.
- If the image fails to be displayed, check whether the image filename and format are correct and consistent with the image being replaced.

7.2.2 Ad Image, Logo or Welcome Message Change

The procedure for replacing ad images, logos, and welcome messages is the same.

1. Prepare new images according to the requirements.

Note

- Ensure you replace the images corresponding to landscape or portrait orientation as required. Make sure that the new images have the same naming, format, and resolution as the ones being replaced. See *" Appendix" on page 41* for the default images built into the display for guidance.
- Image format requirement: PNG format, 32-bit color depth. See the image name for resolution requirements. The image naming convention is "No. + Sequence + Height + Width +_ICO.png". You can view image information by right-clicking and selecting "Properties > Details".

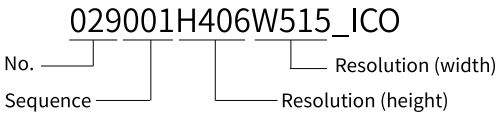


Figure 7-5 Image naming (example)

2. Open the **"TGUS_TF"** folder and place the new image file inside it.
3. Remove the USB drive from the computer, then insert it into the device's USB port. When the device displays **"...successful..."**, the update is complete, and the USB drive can then be removed.
4. Manually restart the device and check the display effect.

Note

- If the image is displayed in the wrong orientation, check whether the image needs to be rotated.
- If the image fails to be displayed, check whether the image filename and format are correct and consistent with the image being replaced.

7.2.3 Background Music Change

1. Prepare the new background music according to the requirements.

Note

The file name and format must be 60.mp3.

2. Open the **"TGUS_TF"** folder and place the new background music file inside it.

3. Remove the USB drive from the computer, then insert it into the device's USB port. When the device displays **"...successful..."**, the update is complete, and the USB drive can then be removed.
4. Manually restart the device and check the play effect.

Note

If the music cannot be played, check for correct file name and format.

8 Interface Upgrade

8.1 Upgrading Through USB Cable

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



Figure 8-1 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. After connecting, power on the device. Once the device has started up, it will display **"usb device is connecting…"**.
3. The computer will recognize two drives. Open the drive with the larger memory capacity.
4. Copy the new **"TGUS_TF"** interface resource file into this drive, replacing the old one.
5. After the replacement is complete, eject the drive from the computer. When the device displays **"*******finished"**, the update is complete, and the USB cable can then be disconnected.
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.

8.2 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. When the device displays **"******finished"**, the upgrade is complete, and the USB drive can then be removed.

Note

If **"errfile= *** FAIL"** is displayed (where * represents a specific file), the upgrade has failed. Please power cycle the device and try upgrading again.

---

4. 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.

---

9 Maintenance

9.1 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.

9.2 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 9–1 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 9–2 Daily Cleaning Items

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

9.3 Battery Replacement

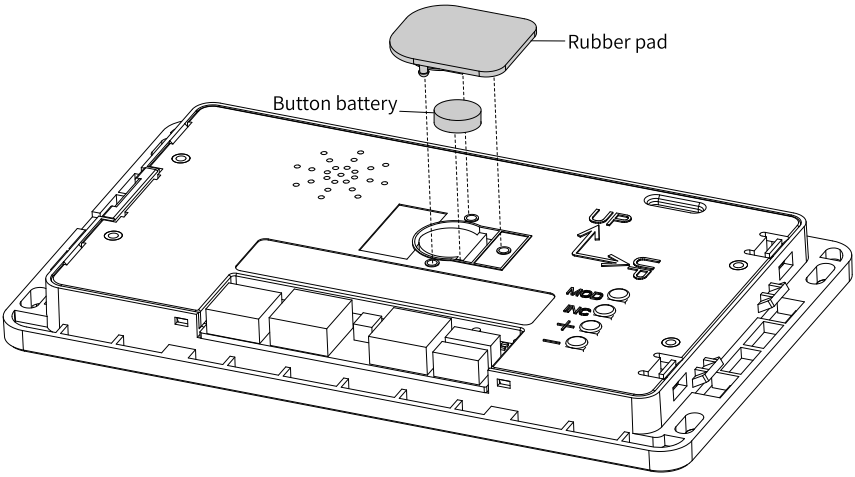


Figure 9-1 Battery replacement

10 Common Fault Troubleshooting

Table 10–1 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.

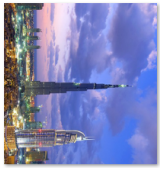
Name	Cause	Diagnosis	Troubleshooting
When the control cabinet is encrypted during running, the floor arrow area displays the up arrow and "000", "-" or "==". It can be temporarily fixed through restarting the system but reoccurs after 7 days.	The floor address setting is incorrect.	Go to the display 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.

11 Appendix

Ensure that when replacing advertisements, logos, or welcome messages, the naming, format, and resolution of the new images match those of the original images.

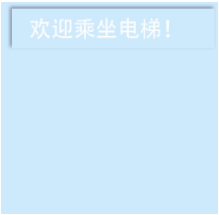
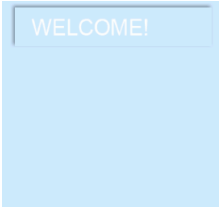
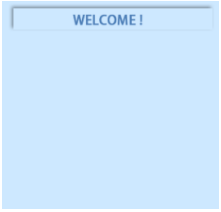
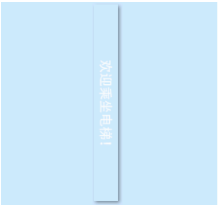
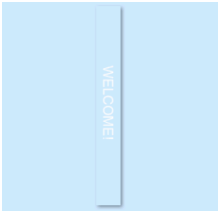
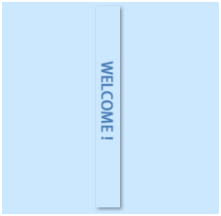
Ad image

Landscape theme 1	 029001H406W515_ICO.png	 029002H406W515_ICO.png	 029003H406W515_ICO.png	 029004H406W515_ICO.png	 029005H406W515ICO.png
Landscape theme 2	 039001H352W581_ICO.png	 039002H352W581_ICO.png	 039003H352W581_ICO.png	 039004H352W581_ICO.png	 039005H352W581_ICO.png
Portrait theme 1	 049001H480W458_ICO.png	 049002H480W458_ICO.png	 049003H480W458_ICO.png	 049004H480W458_ICO.png	 049005H480W458_ICO.png
Portrait theme 2	 059001H480W458_ICO.png	 059002H480W458_ICO.png	 059003H480W458_ICO.png	 059004H480W458_ICO.png	 059005H480W458_ICO.png

Logo

Landscape theme 1	Landscape theme 2	Portrait theme 1	Portrait theme 2
			
024001H067W284_ICO.png	034001H056W158_ICO.png	044001H287W069_ICO.png	054001H158W056_ICO.png

Welcome message

Landscape theme 1		Landscape theme 2	
			
028001H059W300_ICO.png	028002H059W300_ICO.png	038001H056W536_ICO.png	038002H056W536_ICO.png
Portrait theme 1		Portrait theme 2	
			
048001H480W059_ICO.png	048002H480W059_ICO.png	058001H480W056_ICO.png	058002H480W056_ICO.png

12 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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Shenzhen Inovance Technology Co., Ltd.

www.inovance.com

Add.: Inovance Headquarters Tower, High-tech Industrial Park,
Guanlan Street, Longhua New District,
Shenzhen 518000, P.R. China
Tel: (0755) 2979 9595 Fax: (0755) 2961 9897

Suzhou Inovance Technology Co., Ltd.

www.inovance.com

Add.: No. 52, Tian E Dang Road, Wuzhong District, 215104,
Suzhou City, Jiangsu Province, P.R. China
Tel: (0512) 6637 6666 Fax: (0512) 6285 6720