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Technical Specification

AGILE Destination Control Terminal (2023)

Product Design Center (China)

Amendment Record

Version	Main Modification Content	Last Modified
A	First version	YYYY-MM-DD

Preface

It is a requirement that you shall read carefully and comprehend each item in this manual before any installation, operation, maintenance and usage of the elevator. If you have any trouble in fully understanding the literal content, diagrams or pictures in this manual, please contact TK Elevator (China) for necessary technical support. Please note that any incorrect installation, operation or maintenance may lead to potential abnormal operation of the elevator and then possible loss of property or injury of persons.

1. The installation and maintenance personnel of elevator must have obtained relevant legal operating certificate, and shall strictly observe the national and local regulations on safety, installation and maintenance during operation. If the national or local regulations on safety, installation and maintenance are inconsistent with this manual, please contact TK Elevator (China) for clarification beforehand.

2. The installation and maintenance personnel of elevator shall be professionally trained and instructed by TK Elevator (China). If unfamiliar with the relevant knowledge on installation or maintenance of TK Elevator, they shall immediately contact TK Elevator (China) for obtaining relevant information and instructions.

3. If inconsistency is found between any product mentioned in this manual and the actual one on the jobsite, be sure not to carry out any installation, operation or maintenance without authorization, and meanwhile immediately contact TK Elevator (China) for obtaining relevant information and instructions.

4. This manual has been scrutinized in technical details, and shall be immune from any prosecution for incomplete information.

5. TK Elevator (China) will be exempted from any liabilities to the damage or losses arising from nonobservance to this manual.

6. TK Elevator (China) expressly reserves the sole right to make changes to and update this manual at any time without opinion inquiry or prior notice. Please obtain the up-to-date product information, data and operation manuals via the official website mentioned below.

7. TK Elevator (China) reserves all the intellectual property rights and exclusive rights on this manual. Any copying or distribution of any part of this manual in any form which is not authorized by TK Elevator (China) with the express written approval is strictly forbidden.

8. Obtain the up-to-date product information, data and instructions of TK Elevator via the following ways:

Official website: <http://www.tkelevator.com.cn>

24-hour service hotline: 400 820 0604

Nearest TK Elevator service branch.

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1 Scope

This technical document specifies the model, size, technical parameters, inspection content, marking, packaging, transportation and storage requirements of the AGILE Destination Control Terminal (2023).

AGILE Destination Control Terminal (2023) involved in this technical document is applicable to TKE's TCM, TAC, FDN and GC elevator control systems. The user can input the destination floor through the touch screen, and can use the elevator according to the elevator dispatching information displayed on the touch screen.

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2 Terms

This technical document may mention the technical terms as follows:

- Elevator Destination Dispatch Control Kiosk
- TKE Global DSC Terminal
- TKE Global Destination Dispatch Kiosk
- Destination Dispatch Kiosk
- Destination Dispatch Controller Kiosk
- DDCK
- TKE Kiosk
- Kiosk
- 2nd Gen Kiosk
- AGILE Destination Control Terminal (2023)
- Touch Screen Kiosk
- 2ND GEN Touch Screen Kiosk

If there is no special description in relevant documents, the above names refer to the AGILE Destination Control Terminal (2023). To simplify expression, in latter context, 2nd Gen Kiosk or Kiosk will be used to express AGILE Destination Control Terminal (2023).

3 Reference Standards

3.1 European Standards

3.1.1 RF Radiation

EN 55022:2006
+A1:2007, Class "B"

EN 61000-3-2 (2006), A1 (2009), A2
(2009)

EN 61000-3-3 (2008)

Information technology equipment - Radio disturbance
characteristics - Limits and methods of measurement

Electromagnetic compatibility (EMC)

- Part 3-2: Limits - Limits for harmonic current emissions
(equipment input current up to and including 16 A per phase)

Electromagnetic compatibility (EMC)

- Part 3-3: Limits - Limitation of voltage changes, voltage
fluctuations and flicker in public low-voltage supply systems,
for equipment with rated current <16 A per phase and not
subject to conditional connection".

3.1.2 EMI

EN 61000-4-2 (2009)	Electromagnetic Compatibility - Testing and measurement techniques - Electrostatic discharge immunity test.
EN 61000-4-3 (2006)+A1+A2	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test.
EN 61000-4-4 (2004)	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.
EN 61000-4-6 (2005)	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.
ISO 7637-2: 2011	Road Vehicles – Electrical disturbances from conduction and coupling - Part 2: Electrical transient conduction along supply lines only.
EN 61000-4-11 (2004)	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests.
EN 61000-4-5 (2006)	"Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test.

3.1.3 Others

EN 81-71: 2005	Safety rules for the construction and installation of lifts – Particular applications to passenger lifts and goods passenger lifts – Part 71: Vandal resistant lifts
EN 60529 :1991-10 (incl. Corrigendum: 1993-05) + A1: 2000-02	Degrees of protection provided by enclosures (IP Code)

3.2 US Standards

3.2.1 RF Radiation

FCC 15B, Sec. 107, FCC 15B, Sec. 109 ISO 22199:2009	Title 47 -- Telecommunications, Federal Communications Commission Part 15 – Radio Frequency Devices. Electromagnetic compatibility- Product family standard for lifts, escalators and moving walks. Emissions.
EN 12015:2014	Electromagnetic compatibility- Product family standard for lifts, escalators and moving walks. Emissions.
ICES-003, Issue 5 2012	Limits and methods of measurement of radio disturbance characteristics of information technology equipment

CISPR 11: 2009+A1:2010

Industrial, scientific and medical (ISM) radio-frequency equipment — Radio disturbance characteristics — Limits and methods of measurement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

3.2.2 Power line harmonics and fluctuations

EN 61000-3-2006+A1: 2009+A2: Electromagnetic Compatibility, Limits for Harmonic Current Emissions, Equipment Input Current < 16A

EN 61000-3-3: 2013 Electromagnetic Compatibility, Limitation of Voltage Fluctuations and Flicker In Low-Voltage Supply Systems for Equipment with Rated Current < 16A

3.2.3 EMI

EN 61000-4-2: 2009 Electromagnetic Compatibility - Testing and measurement techniques - Electrostatic discharge immunity test

EN 61000-4-3: 2006 +A1:2008 Electromagnetic Compatibility - Testing and measurement techniques - Radiated radio frequency electromagnetic field immunity test

EN 61000-4-4: 2004 Electromagnetic Compatibility - Testing and measurement techniques - Electrical fast transient / burst immunity

EN 61000-4-5: 2006 Electromagnetic Compatibility - Testing and measurement techniques - Surge immunity test

EN 61000-4-6: 2009 Electromagnetic Compatibility - Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields

EN 61000-4-8: 2010 Electromagnetic Compatibility - Testing and measurement techniques - for Power Frequency Magnetic Field, Immunity Test

EN 61000-4-11: 2004 Electromagnetic Compatibility - Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests

IEC 61000-4-2: 2008 Electromagnetic Compatibility - Testing and measurement techniques - Electrostatic discharge immunity test

IEC 61000-4-3: 2006 A1:2007 +A2: 2010 Electromagnetic Compatibility - Testing and measurement techniques - Radiated radio frequency electromagnetic field immunity test

IEC 61000-4-4: 2011 Electromagnetic Compatibility - Testing and measurement techniques - Electrical fast transient / burst immunity

IEC 61000-4-5: 2005 Electromagnetic Compatibility - Testing and measurement techniques - Surge immunity test

IEC 61000-4-6:2003 +A1:2004 +A2:2006 Electromagnetic Compatibility - Testing and measurement Techniques, Conducted Radio Frequency Electromagnetic Field, Immunity Test

IEC 61000-4-8: 2009	Electromagnetic Compatibility - Testing and measurement techniques - for Power Frequency Magnetic Field, Immunity Test
IEC 61000-4-11: 2004	Electromagnetic Compatibility - Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests

3.3 China Standards

3.3.1 RF Radiation

GB 9254-2008	Info Tech equipment-Radio disturbance characteristics-Limits and methods of measurement
GB 17625.1-2012	Electromagnetic compatibility-Limits-Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
GB 17625.2-2007	Electromagnetic compatibility (EMC)-Limits-Limitation of voltage changes, voltage fluctuations and flicker in public lower-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

3.3.2 EMI

GB/T 17626.2-2006	Electromagnetic compatibility- Testing and measurement techniques-Electrostatic discharge immunity test
GB/T 17626.3-2006	Electromagnetic compatibility- Testing and measurement techniques-Radiated, radio-frequency, electromagnetic field immunity test
GB/T 17626.4-2006	Electromagnetic compatibility- Testing and measurement techniques-Electrical fast transient/burst immunity test
GB/T 17626.5	Electromagnetic compatibility- Testing and measurement techniques-Electrical fast transient/burst immunity test
GB/T 17626.6-2006	Electromagnetic compatibility- Testing and measurement techniques-Immunity to conducted disturbances, induced by radio-frequency fields
GB/T 17626.11	Electromagnetic compatibility- Testing and measurement techniques- voltage dips, short interruptions and voltage variations immunity test for equipment with mains current more than 16A phase
GB 21437.2	Road vehicles-Electrical disturbances from conduction and coupling- Part 2: Electrical transient conduction along supply lines only

3.3.3 Environmental reliability test

GB/T 2423.22-2002/IEC 14:1984	60068-2-	Environmental testing for electric and electronic products- Part 2: Test methods Test N: Change of temperature
GB/T 2423.4-2008/IEC 30:2005	60068-2-	Environmental testing for electric and electronic products- Part 2: Test methods -Test Db: Damp heat cycle (12 h + 12 h cycle)
GB/T 2423.10-2008/IEC 6:1995	60068-2-	Environmental testing for electric and electronic products- Part 2: Test methods - Test Fc: Vibration (sin)
GB/T 2423.17-2008/IEC 11:1981	60068-2-	Environmental testing for electric and electronic products- Part 2: Test methods - Test Ka: Salt mist
GB/T2423.8-1995/IEC 32:1990	60068.2-	Environmental testing for electric and electronic products- Part 2: Test methods - Test Ed: free fall
GB/T 2423.37-2006/IEC 68:1994	60068-2-	Environmental testing for electric and electronic products- Part 2: Test methods – Test L: Dust and Sand
GB/T 2423.1-2008/IEC 1:2007	60068-2-	Environmental testing for electric and electronic products- Part 2: Test methods – Test A: cold

3.3.4 Others

GB 26465-2011	Safety rules for the construction and installation of firefighters lifts
GB 4208-2008	Degrees of protection provided by enclosure (IP code)

4 Models and Sizes

4.1 Product Models

Description of each part of the model is shown in Figure 1.

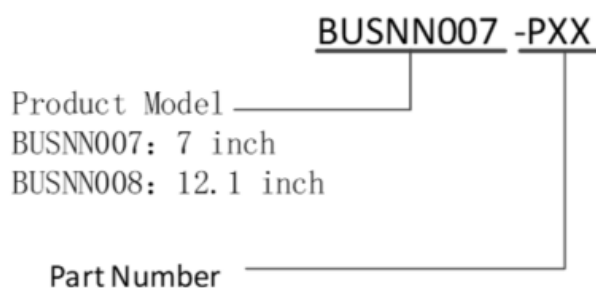


Figure 1: Product Model Composition

4.2 Dimensions

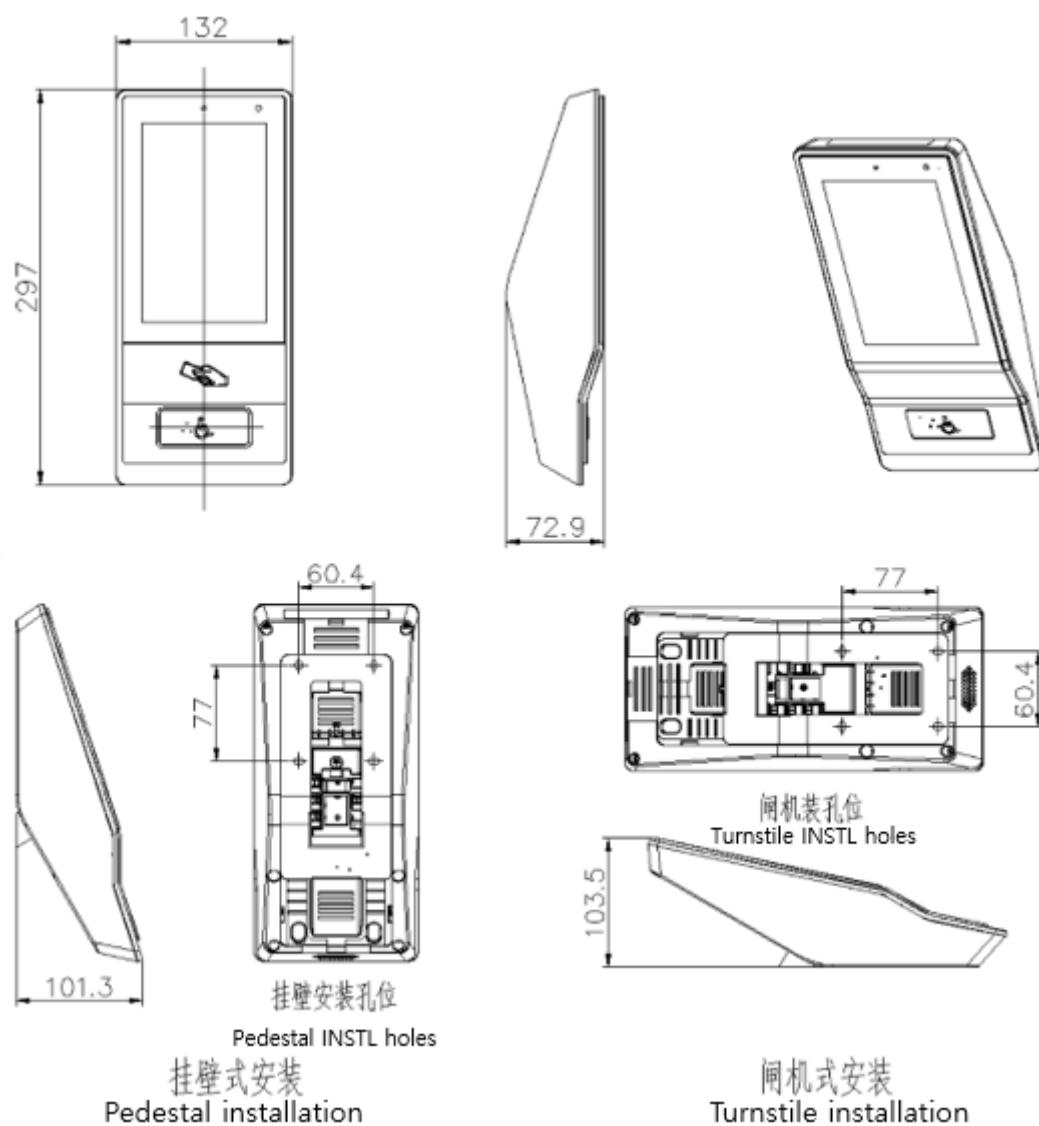


Figure 2: Dimensions of 7 inch Kiosk (unit: mm)

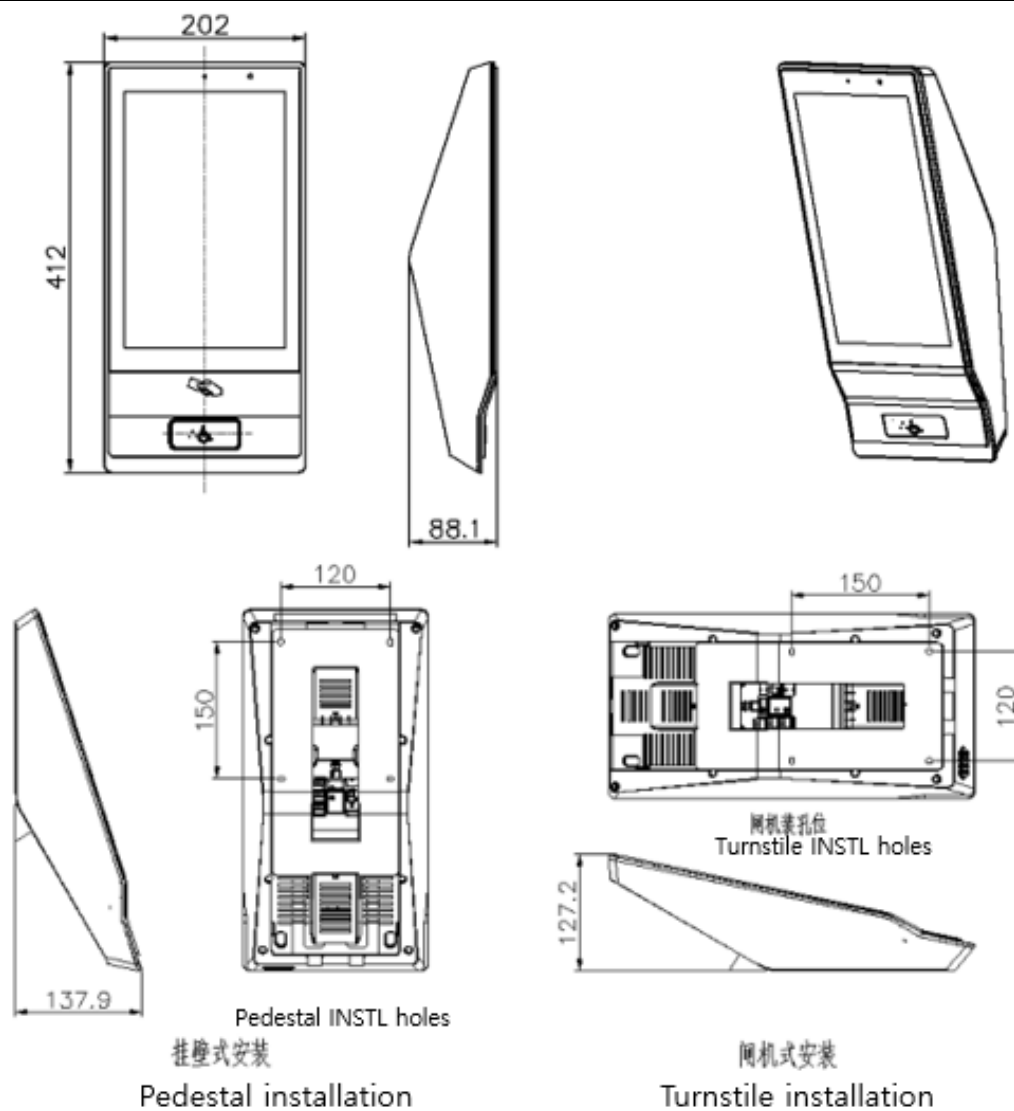


Figure 3: Dimensions of 12.1 inch Kiosk (standard bracket) (unit: mm)

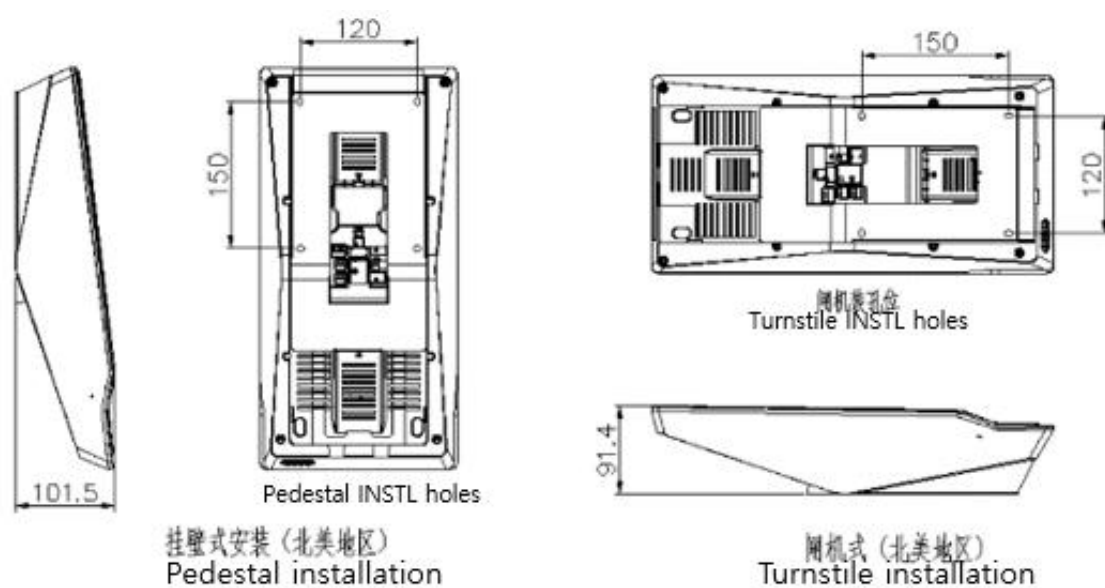


Figure 4: Dimensions of 12.1 inch Kiosk (NA V-bracket) (unit: mm)

4.3 Product Photos



Figure 5: Photos of 7 inch Kiosk (standard bracket)



Figure 6: Photos of 12.1 inch Kiosk



Figure 7: Photos of 12.1 inch Kiosk (NA V-bracket)

4.4 Main components of the product

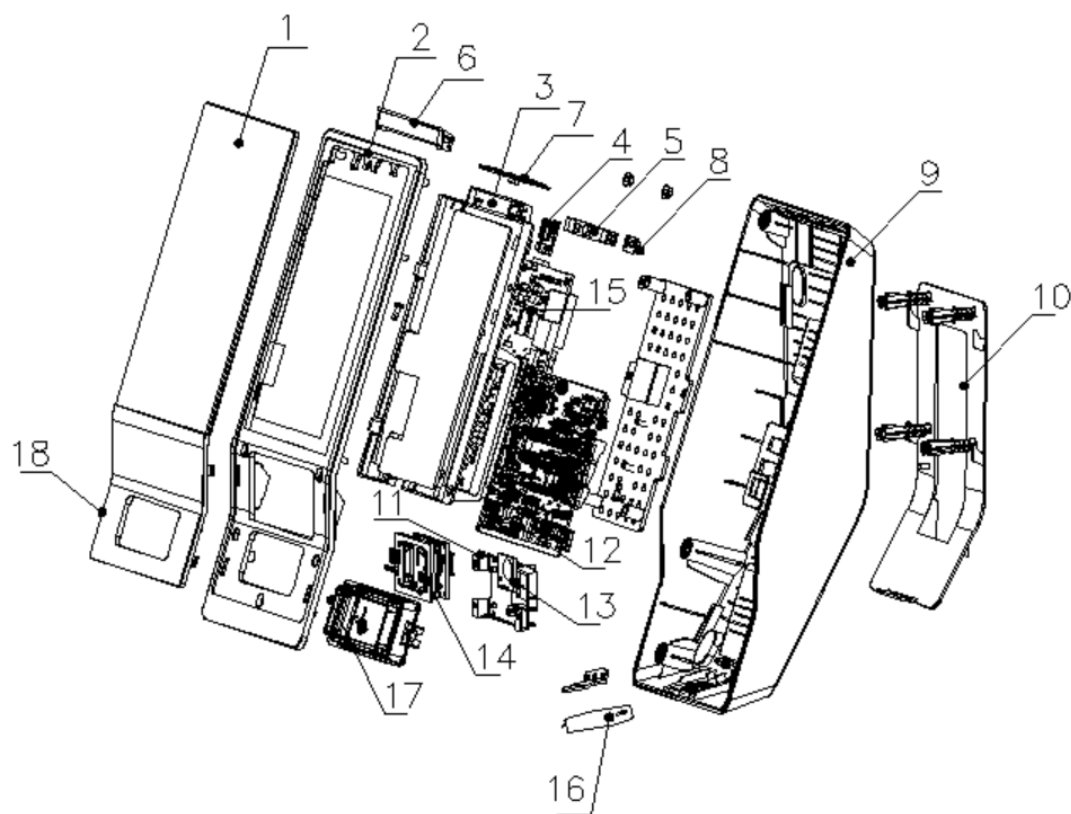


Figure 8: Exploded views of 7 inch Kiosk

1-Screen	2- Frame	3- Adapter plate bracket	4- Beacon
5-Camera	6- Spotlight Cover	7-Spotlight	8-Ambient light sensor
9-Back Housing	10-Mounting bracket	11- Card reader bracket	12- POE adapter board
13-Proximity Sensor	14-Card Reader	15-Main Board	16- Speaker
17-ADA Button	18- Lower Cover		

Note: The main components of 12.1 inch Kiosk are the same with 7 inch Kiosk.

5 Technical Parameters and External Interfaces

5.1 Technical Parameters

	12.1 inch Kiosk	7 inch Kiosk
Physical size	H: 412mm W: 202mm T: 137.9mm pedestal INSTL (standard bracket) T: 127.2mm turnstile INSTL (standard bracket) T: 101.5mm pedestal INSTL NA V-bracket) T: 91.4mm turnstile INSTL (NA V-bracket)	H: 297mm W: 132mm T: 101.3mm pedestal INSTL T: 103.5mm turnstile INSTL
Screen resolution	1280 (H) x 800 (V) pixel	1280 (H) x 800 (V) pixel
Screen aspect ratio	16:10	16:10
Display area	262.12(H) x 164.2mm(W)	148.9(H) x 93.6(W) mm
Screen backlight	LED	LED
Backlight life	50,000Hrs	30,000Hrs
Screen brightness	400 cd/m2	400 cd/m2
Viewing angle	85-85-85-85 degrees	88-88-88-88 degrees
Touch	I ² C	I ² C
Screen color	16.7M	16.7M
Contrast ratio	1200:1	800:1
OS	Linux	
CPU	NXP iMX6 dual-core	
Flash Memory	1GByte/2GByte DDR3	
System Memory	4GByte /16GByte EMMC	
External interface	CAN/RS485, Ethernet, USB, Weigand, Turnstile	
Sensor	Proximity Sensor, CPU temperature Sensor, Ambient light sensor, PCB temperature Sensor	

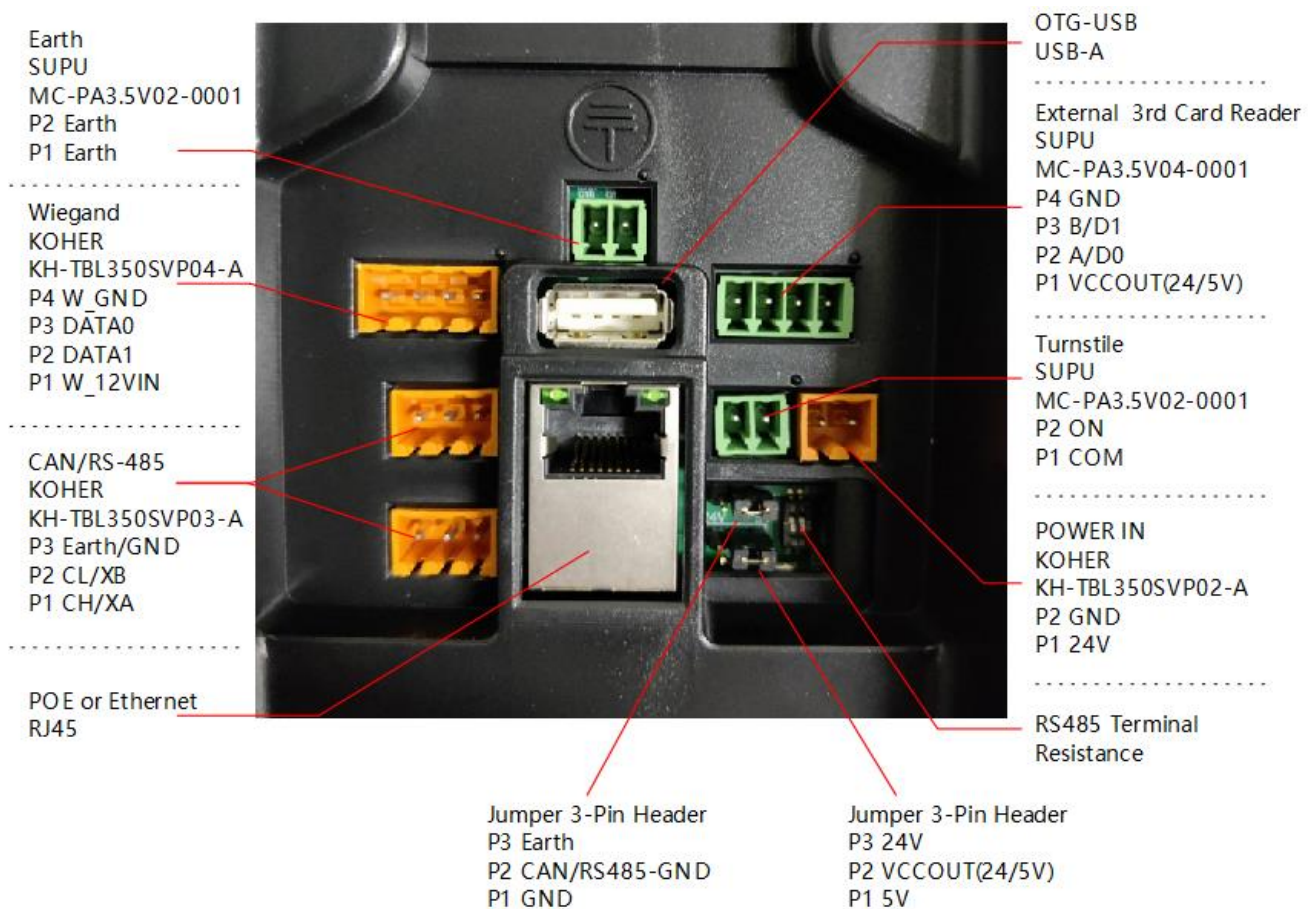
	12.1 inch Kiosk	7 inch Kiosk
Waterproof grade	IP21	
Working environment	Operating voltage PoE (44-57VDC) 24VDC (20VDC ~ 28VDC)	
	Operating temperature: 0 to 60°C, for indoor use only	
	Relative humidity: ≤ 95%RH	
	Altitude: ≤ 3000 m	
	Application environment: no corrosive, flammable gas or conductive dust	
Max Current	≤ 1.0A(24V DC), ≤ 0.5A(PoE)	≤ 0.7A(24V DC), ≤ 0.4A(PoE)
Max Power Consumption	24 W	20 W
Standby mode	Optional. When the standby mode is enabled, it can be activated if there is no operation during a certain period (the duration can be set in the range from 15 min to 4 hrs)	

Table 4: Technical Parameters of the 2nd Gen Kiosk

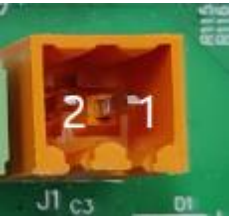
The power source meet limited power source or PS2 requirements according IEC 62368-1 standard.

5.2 External interfaces

External interfaces of the 2nd Gen Kiosk is located on its back, as shown in Figure 7:

Figure 8: External interface of the 2nd Gen Kiosk

5.2.1 Terminal Description

Terminal Name	Pin Description	Remarks
Turnstile 	P2 ON P1 COM	Pin spacing is 3.5mm, Kiosk's relay common terminal output port, can be used to control external turnstile gate switch. Recommended plug information: Supplier: SUPU Po #: MC-RF3.50H02P Manufacturer information: see Table5
Power supply 	P2 GND P1 24V	Pin spacing 3.5mm, Kiosk power supply terminal, can be used to provide working power of 24V DC Recommended plug information: Supplier: Weidmüller Po #: 1597360000 or 1690190000 Manufacturer information: see Table5
3rd-party card reader interface 	P4 GND P3 B/D1 P2 A/D0 P1 VCCOUT(24/5V)	Pin spacing is 3.5mm, Kiosk's input port for a 3rd-party card reader. 3rd-party card reader can be used to provide card tapping authorization data to the Kiosk Recommended plug information Supplier: SUPU Po #: MC-RF3.50H04P Manufacturer information: see Table5
Ethernet port 	-	Standard Ethernet port, can be used to update Kiosk configuration or software through network cable connection. In actual application, card tapping data, video data transmit, etc. can be transmitted through the Ethernet port (Note: for Kiosk model configured with card reader and camera). PoE devices can be connected to the Ethernet port to provide operating power to the Kiosk.
USB port 	-	Standard USB2.0 port, can be used to update Kiosk configuration or software through U disk.
Jumper terminal (UP) 	P3 EARTH P2 CAN/RS485-GND P1 GND	Pin spacing is 2.54mm, one-of-two jumper for CAN/RS485 grounding, the jumper cap switch can switch CAN/RS485 signal cable shield ground between the protective Earth and PCB ground.
Jumper terminal (DN) 	P3 24V P2 VCCOUT(24/5V) P1 5V	Pin spacing is 2.54mm, one-of-two jumper, the jumper cap can switch between 24V and 5V power to the third-party card reader.

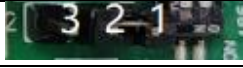
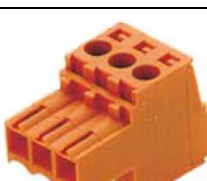
Terminal Name	Pin Description	Remarks
 Wiegand interface 	P4 W_GND P3 DATA0 P2 DATA1 P1 W_12VIN	Pin spacing is 3.5mm, Wiegand interface, can transmit the data of card tapping from card reader. (Note: need to select a kiosk model with card reader optioned) Recommended plug information supplier: Weidmüller PO#: 1597380000 Manufacturer information: see Table5
Earth 	P2 Earth P1 Earth	Pin spacing is 3.5mm, connect shell to ground, can prevent electric leakage. Recommended plug information supplier: SUPU PO#: MC-RF3.50H02P Manufacturer information: see Table5
CAN/RS-485 	P3 Earth /GND P2 CL/XB P1 CH/XA	Pin spacing is 3.5mm, CAN/RS485 signal communication port, the interface is compatible with CAN and RS485 communication, can provide Kiosk with an interface for communicating with external devices, such as elevator mainboard, etc. Recommended plug information supplier: Weidmüller PO#: 1597370000or 1690200000 Manufacturer information: see Table5

Table 5: Description of the interface terminals of 2nd Gen kiosk

5.2.2 Recommended wiring plug information

Plug Name	Plug photos	Remarks
Weidmüller plug 1597360000		2 pins, pitch 3.5mm supplier: Weidmüller PO#: 1597360000
Weidmüller plug 1690190000		2 pins, pitch 3.5mm supplier: Weidmüller PO#: 1690190000
Weidmüller plug 1597370000		3 pins, pitch 3.5mm supplier: Weidmüller PO#: 1597370000

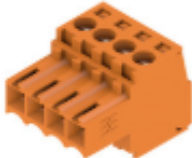
Plug Name	Plug photos	Remarks
Weidmüller plug 1690200000		3 pins, pitch 3.5mm supplier: Weidmüller PO#: 1690200000
Weidmüller plug 1597380000		3 pins, pitch 3.5mm supplier: Weidmüller PO#: 1597380000
SUPU plug MC-RF3.50H02P		2 pins, pitch 3.5mm supplier: SUPU PO#: MC-RF3.50H02P
SUPU plug MC-RF3.50H04P		4 pins, pitch 3.5mm supplier: SUPU PO#: MC-RF3.50H04P

Table 6: Recommended wiring plug information

5.2.3 DIP switch instructions

Name	Dial status	Status Definition	Remarks
SW1-No.1 CAN/485 Terminal resistance 	OFF	Terminal resistance is invalid	SW1 is a two-digit dial switch. When the No. 1 dial is dialed to the number 1, the switch is in the off status. At this time, the 120 Ω termination resistance of the external CAN/485 bus communication terminal of J8 and J9 can be effectively separated from the BUS
	ON	Terminal resistance is valid	SW1 is a two-digit dial switch. When the No. 1 dial is turned to ON, the switch is in the on status. At this time, the 120 Ω termination resistance of the external CAN/485 bus communication terminal of J8 and J9 can be effectively connected to the bus
SW1-No.2 3rd party card reader 485 Bus Terminal resistance	OFF	Terminal resistance is invalid	SW1 is a two-digit dial switch. When the No. 2 dial is dialed to the number 2, the switch is in the off status. At this time, J12 (third-party card reader receiving port) external 485 bus communication terminal 120 Ω termination resistance can be effectively detached from the bus

	ON	Terminal resistance is valid	SW1 is a two-digit dial switch. When the No. 2 dial is turned to ON, the switch is in the on status. At this time, the 120Ω termination resistance of the external 485 bus communication terminal of J12 (third-party card reader receiving port) can be effectively connected to the bus
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Table 7: Description of the DIP switch of 2nd Gen kiosk

5.2.4 Grounding Requirements

Kiosk wiring at field must fulfill the following requirements:

- The J23 2 PIN ground terminal on the Kiosk PCBA needs to be connected to the ground, and it is necessary to ensure that both pins on the 2PIN terminals are reliably grounded.
- CAN & 485 communication terminals J10 & J11 need to use shielded cables and ensure that the shielding layers of the two 3PIN terminal cables are all reliably grounded (Pin3).
- The position of the S1 jumper is placed on the EARTH end by default. When the communication quality is abnormal, you can try to switch the S1 jumper to the GND end.

6 Inspection

6.1 Appearance

Visually inspect the appearance of 2nd Gen Kiosk terminal to ensure that the appearance is intact and there should be no cracks or scratches; the identification should be clear, complete and correct.

6.2 Structure dimensions

The external dimensions of the product shall comply with 4.2.

7 Identification, Package, Transportation, Storage

7.1 Identification

Identification shall be on the back with the below marked:

- Model specification
- Product name
- Manufacturer's name or trademark
- Product serial number
- Product batch
- Date of manufacture
- Certification mark
- Working voltage and current specifications

7.2 Package

The surface of the product package could be marked with necessary information such as the product number, date of manufacture, etc., and the packaging box should meet the requirements for moisture-proof, dust-proof, shock-proof, and transportation.

7.3 Transportation

When loading and unloading, the packed product should be handled with care, without being thrown or being damaged by the rain & snow and mechanical shock or being mixed with corrosive items.

7.4 Storage

The product should be stored in a ventilated place without acidic, alkaline or other corrosive gases, and the ambient temperature should be within the range of $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$.

7.5 Warning

- This product contains a coin/button cell battery. If the battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- This equipment is not suitable for use in locations where children are likely to be present.
- CAUTION: Risk of explosion if the battery is replaced by an incorrect type.
- Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the case of some lithium battery types).
- Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
- Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
- Dispose of used batteries according to the instructions.