AI FACE RECOGNITION

Device guide

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Product R & D background

The novel coronavirus has arrived:

During the Spring Festival of 2020, the novel coronavirus quickly spread to the whole country. The epidemic of coronavirus has interrupted the traditional Chinese New Year holiday and also had a huge impact on the economic operation of China. At the same time, with the rapid spread of the epidemic worldwide, the prevention and control of the epidemic has become the world' s top priority.

The epidemic being under control, the resumption of production is under way:

Guangdong is a Province with the largest economic scale and the largest population in China. According to statistics, the permanent population in 2019 increased by 1.75 million to 115.21 million, including migrant workers and immigrants. There is a large number of people migrating on a daily basis. With the gradual abatement of the epidemic within China, the resumption of production in our province has been carried out in an orderly manner. Schools at all levels, enterprises, and other important places have ushered in the peak of population migration, which poses great challenges for epidemic prevention and control in various industries.

1x Thermal imaging sensor

When the equipment is running, it detects the temperature difference and analyzes it. It will automatically warn when the detected temperature exceeds the set value.

2 x 2MP AI HD camera

The camera is analyzed by a database algorithm, Fast face recognition comparison. and judgment.

24 x LED white light

LED fill light can help camera system to shoot, Can fill the scene according to the actual situation.

2 x LED Infrared Light

Better capture of images at night to achieve more uniform light on the screen.

1.2 mm thick tempered glass

High-definition clear picture quality, no dropped frames,color balance.

7 inch IPS HD screen

Clear picture quality in HD No dropped frame color balance.

All aluminum body

Integrated aluminum alloy forming process to achieve uniform heat dissipation.

Product publicity effect

AI Ultra-precision Human Body

Temperature Measurement Face Recognition Device

Assist in scientific epidemic prevention (FK02GYW)

- Forehead temperature measurement
- Mask recognition
- Identification
- Fever warning
- Data query

Product publicity effect

Functions and Features

Accurate Temperature Measurement
Error of plus or minus 0.3 ℃

Two-eye recognition
Support two-eye live human face detection

Mask Detection
No need to remove the mask, automatically capture the face for identification

Fast recognition
200ms face recognition

30,000-Person Face
Support 30,000 local face storage

High Recognition Rate
Face recognition accuracy rate is as high as 99.5%

Fill-in light
Built-in fill-in light, low-light situations applicable

Embedded Systems
Low power consumption, high stability

Backstage Management
Abnormal records, equipment management, personnel management

Mobile APP
Visitor management, information push

Ensure safety during resumption of production
Combat the epidemic effectively

Temperature error range ± 0.3 ℃

Detect body temperature accurately, intelligent warning in case of fever

Normal body temperature

36.0℃-37.3℃

Hypothermia

37.3℃-38.5℃

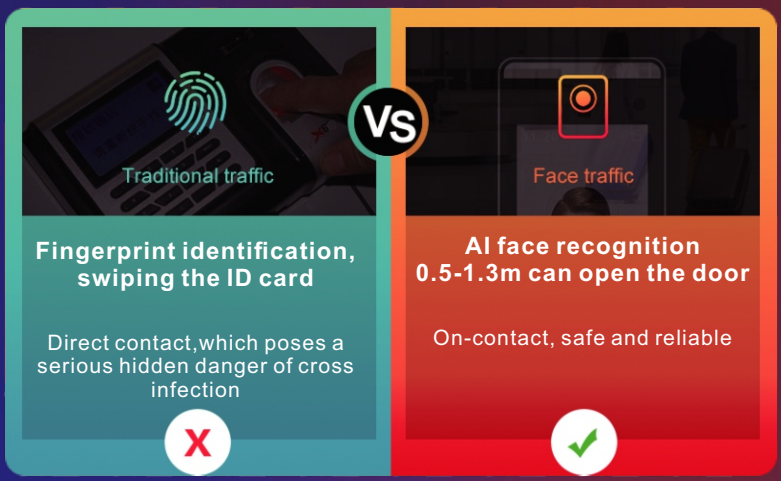
High body temperature

More than 38.5℃

Product publicity effect

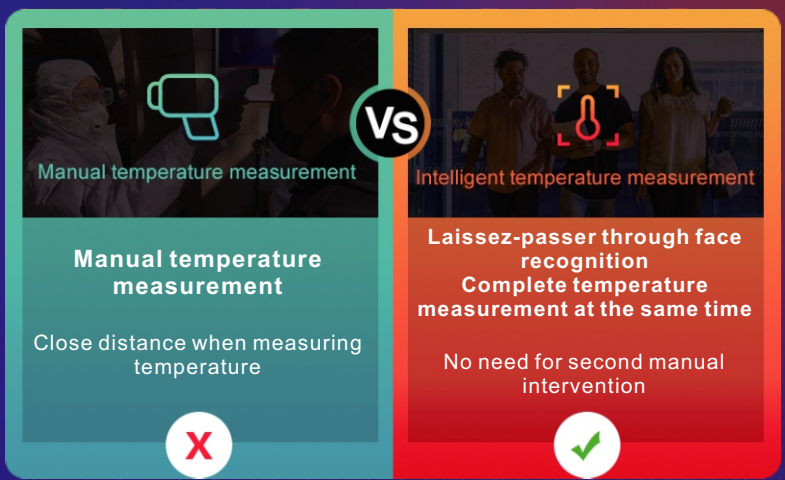
SECURITY

Eliminate the hidden danger of infection through traditional means of laissez-passer



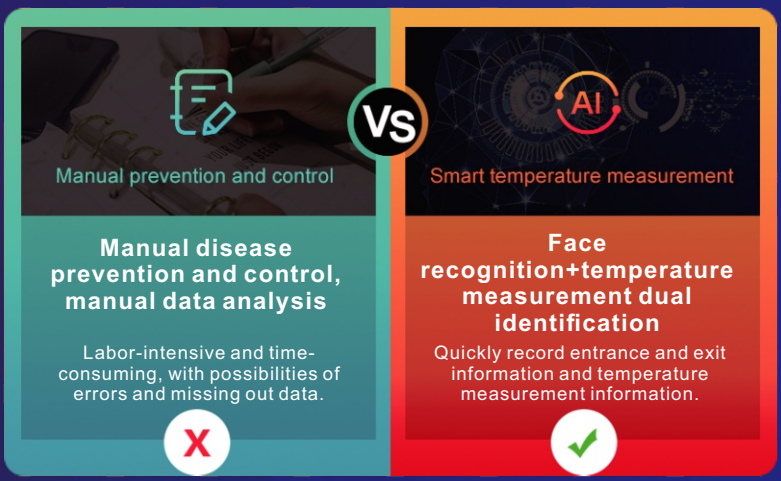
EFFICIENT

Improve temperature measurement and disease prevention and control efficiency

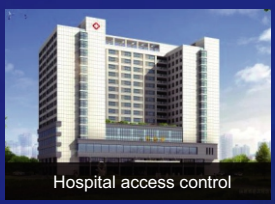


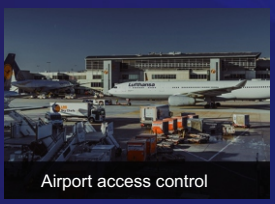
INTELLIGENT

AI intelligent disease prevention and control, intelligent data analysis



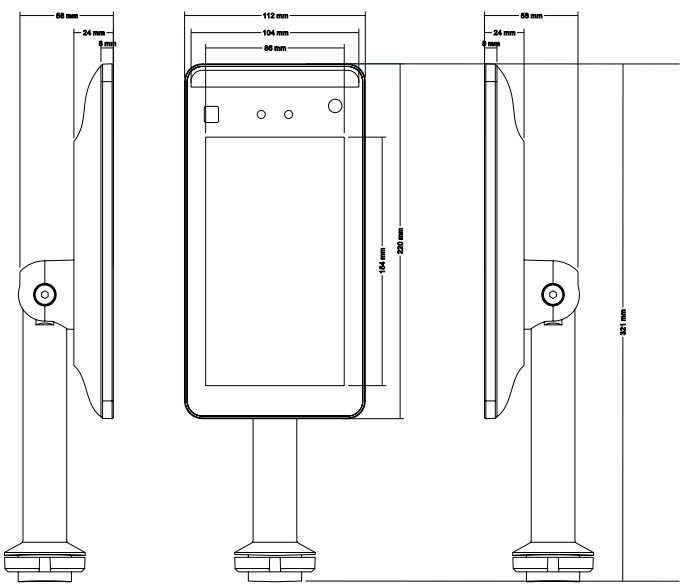
APPLICATION SCENARIOS





Product design

Product specification and dimension



Size:220×112×24

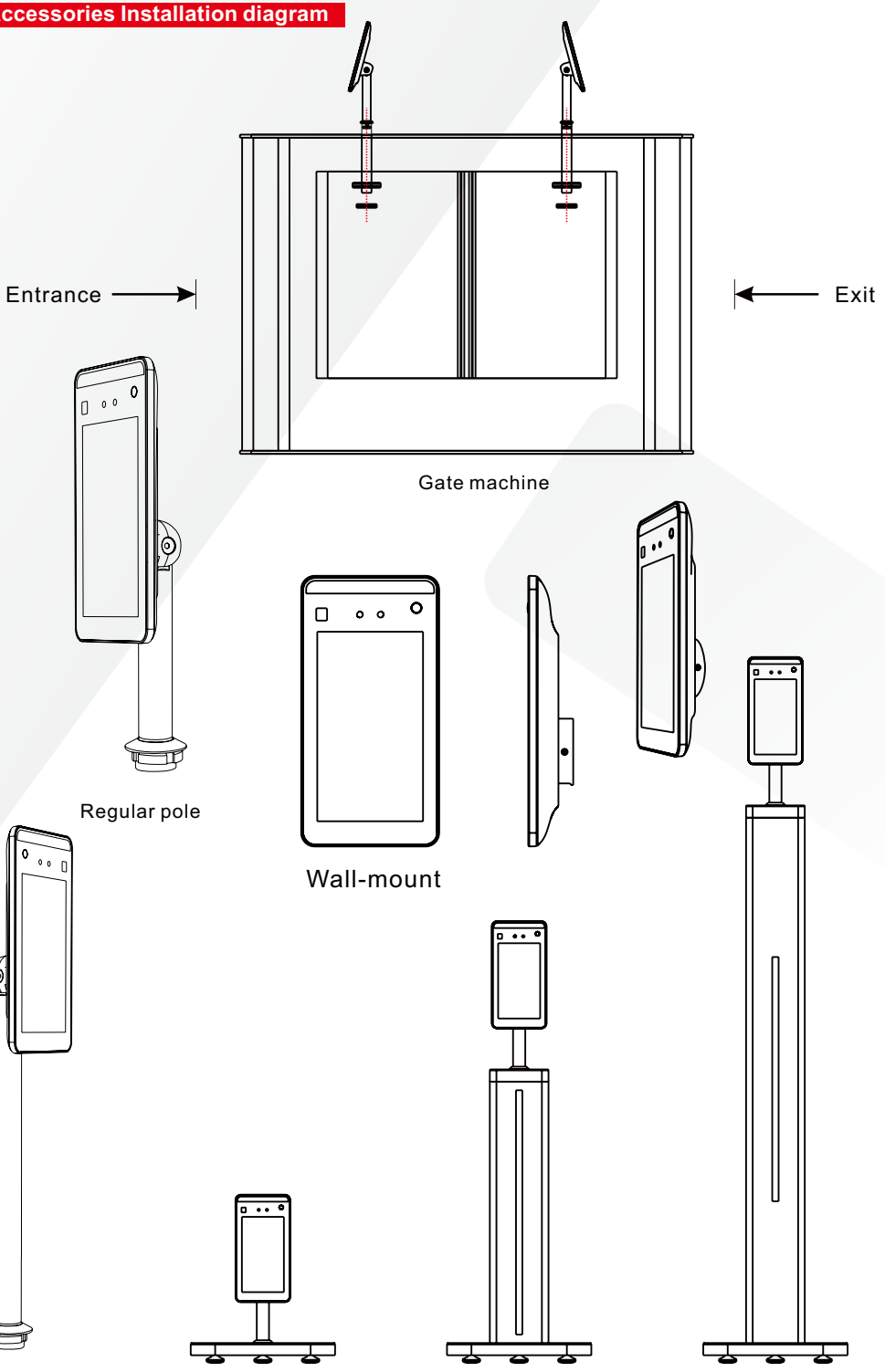
Product specification and parameters

System	
Main Processor	MX3520
Operating System	Embedded LINUX
RAM	DDR3 512MB
ROM	EMMC 8GB
Screen	
Dimensions	7 inch IPS HD LCD screen
Resolution	736*1280
Camera	
Type	2MP night vision living detection camera
Sensor	1/5" GC2145
Resolution	NIR 800*600 15fps
Lens	2.4mm
Camera	
Type	Daily camera
Sensor	1/2.8" SONY Starvis Back-illuminated CMOS sensor IMX307
Resolution	Color 1920*1080 30fps
Lens	4.5mm
Body temperature detection	
Measuring site	Forehead
Temperature range	36-42 ℃
Temperature measuring distance	0.5-1.3m, 0.75m is the best
Temperature measurement accuracy	± 0.3℃
Temperature measurement response	Face library people: 1.5-2s, Strangers: 2.5-3s
Face recognition	
Detection Type	Support living detection, Mask detection
Face recognition distance	0.5-1.5m
Face database capacity	Max support 30,000 faces
Face Angle	(Daytime) vertical viewing 58°-60°, horizontal viewing 35°; (Living body) vertical viewing 48°-50°, horizontal viewing 36°
Occlusion	Ordinary glasses and short sea retention have no effect on recognition.
Expression	Under normal circumstances, slight expressions do not affect recognition.

Product specification and parameters

Response Speed	About 200ms
Face exposure	Support
Local Storage	Support storage of 25,000 records
Recognition area	Full image recognition
Upload Method	TCP, HTTP, MQTT
Network Functions	
Network protocol	IPv4, TCP/IP,HTTP
Security Mode	Authorized username and password
Event linkage	Voice broadcast，Abnormal event upload to the platform
System Upgrade	Support remote upgrade
Accessories	
Supplementary light	IR light, LED white light
Audio out	Built in Speaker support voice broadcast after successful recognition
Interface	
Network Interface	RJ45 10M/100M Network Adaptation
Alarm Output	1 Channel relay output(NC or NO)
RS485 interface	Support
Wiegand interface	Support Wiegand 26, 34, 66 protocols
Reset key	Support
General	
Housing	Metal body and braket, Plastic screen, IP66
Operating Temperature	-20 ° C ~ 60 ° C
Working humidity	10% -90% Non-condensing
Storage Temperature	-40 ° C ~ 70 ° C
Storage humidity	5% -95% Non-condensing
Power Supply	DC12V
Power dissipation (maximum)	= 12 W
Dimensions (mm)	219 (W) * 111 (H) * 21.5 (T)
Bracket size (mm)	ϕ27*189 Extension rod ϕ27*390
Installation Method	Desktop Installation/Floor Installation

Accessories Installation diagram



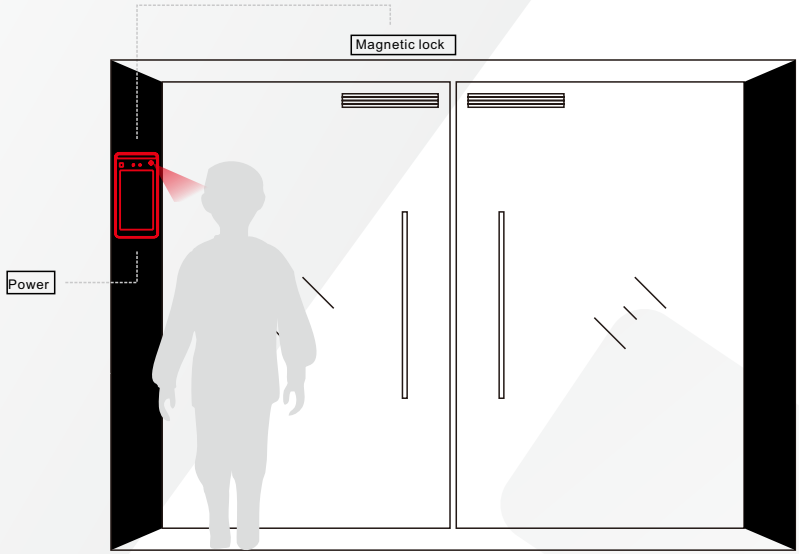
Product package design

Renderings

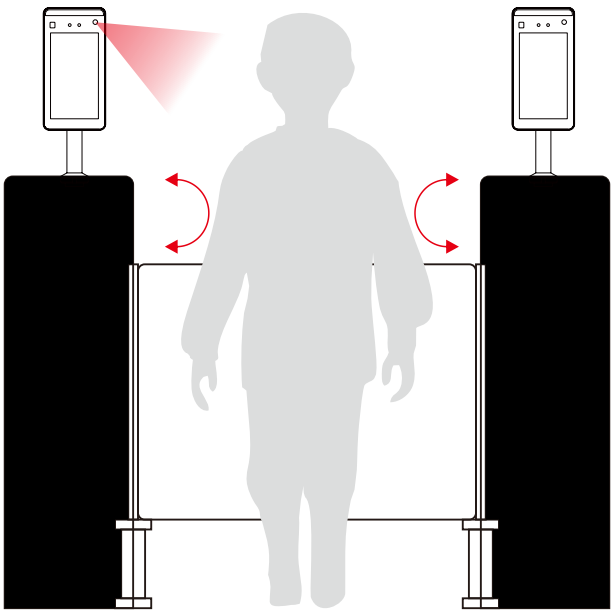
Smart Device 2000
Ai Face Recognition Device
Welcome

Smart Device 2000
Ai Face Recognition Device
Welcome

Supporting equipment for AI recognition system



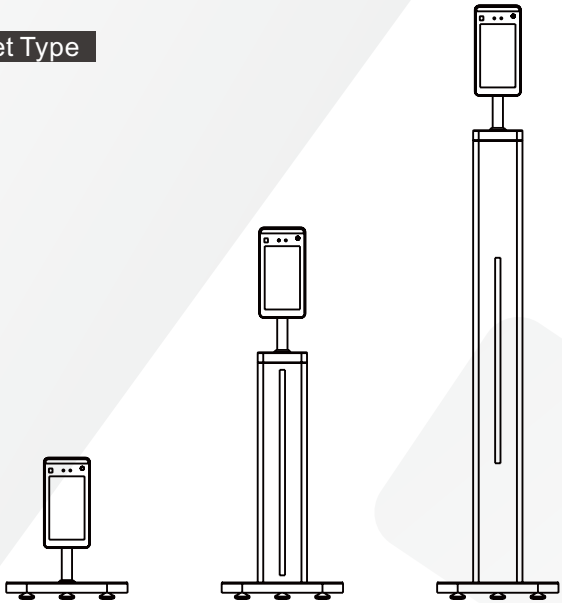
Gate Machine access control solution



Gate Machine access control solution

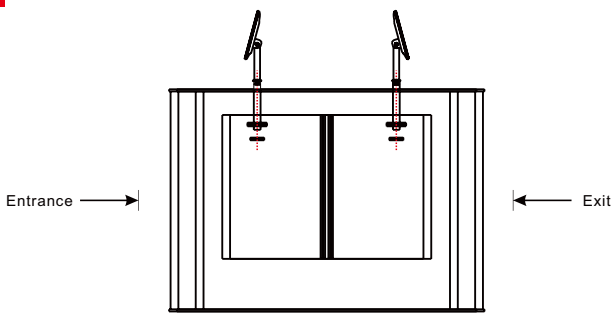
Installation Instructions

Bracket Type



Choose the correct type of bracket according to the actual situation, insert the mounting bracket of the face temperature measuring machine into the fixing hole of pole, fix the device nut, adjust the face thermometer to an appropriate angle (vertical included angle 5°-15°).

Gate machine



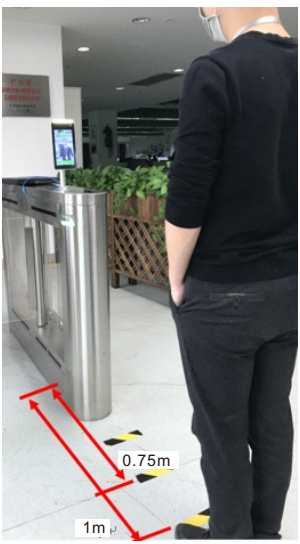
Make a hole with a diameter of 35mm on the gate machine, the recommended position is 1/3 to 1/4 of the entrance end. Insert bracket of face recognition temperature device into the hole, fix the device nut from the inside of the gate, adjust face thermometer to an appropriate angle (vertical included angle 5°-15°).

Tester Requirements Diagram

When import photo, please make sure photo with frontal faces, do not wear hat, sunglasses, or wear heavy makeup. When test temperature, make faces in circle of the device. Do not block your forehead. If you have bangs, you can lift them up.

Frontal Face √ Side head X Side face X Head up X Head down X

Face entry/ head position instructions



As shown in the pictures

Installation Notes

Avoid backlighting, direct sunlight, direct sunlight through windows, slant sunlight through windows, and light at short range.

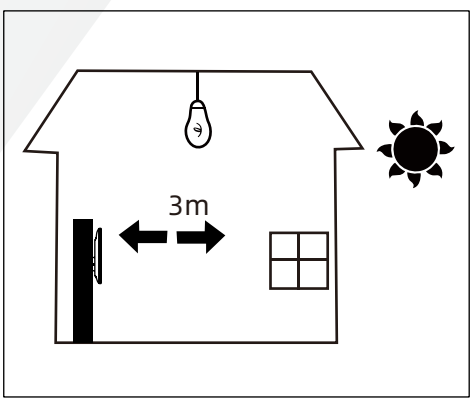
Installation environment parameters

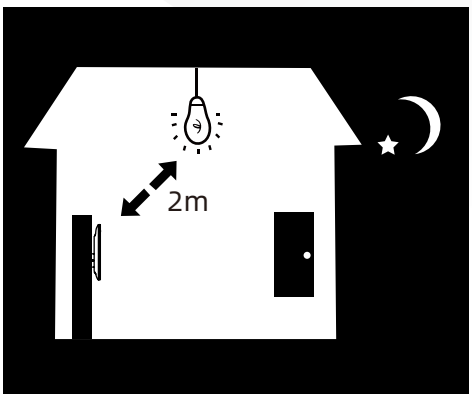
Candle: 10Lux

Light bulb: 100~850 Lux

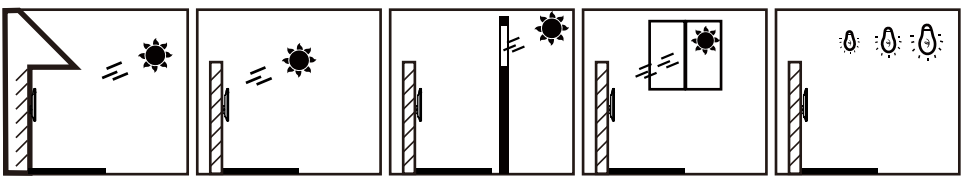
Daylight: greater than 1200 Lux

When the device is installed indoors, keep it more than 2 meters away from the light source, and more than 3 meters away from doors and windows. Avoid direct sunlight or light at short distance.



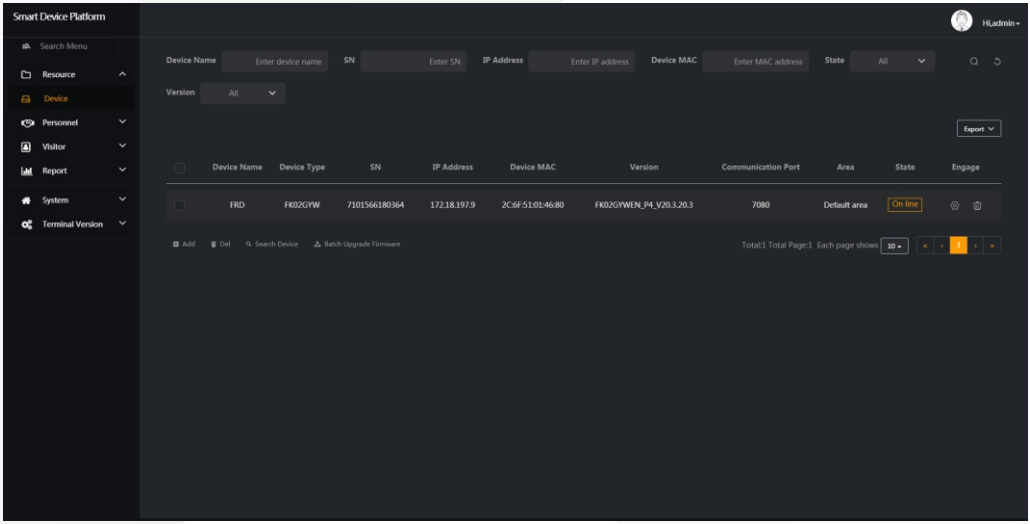


Avoid backlighting, direct sunlight, direct sunlight through windows, oblique sunlight through windows, and light at short distance.



X Backlighting X Direct sunlight X Direct sunlight through windows X Slant sunlight through windows X Light at short range

Backstage management



Device management

Cross network segment search, batch operations, online upgrades, group management.

Personnel management

Group management, batch import photos, Multi-form authorization.

Visitor management

Multi-end appointment, traceable access records.

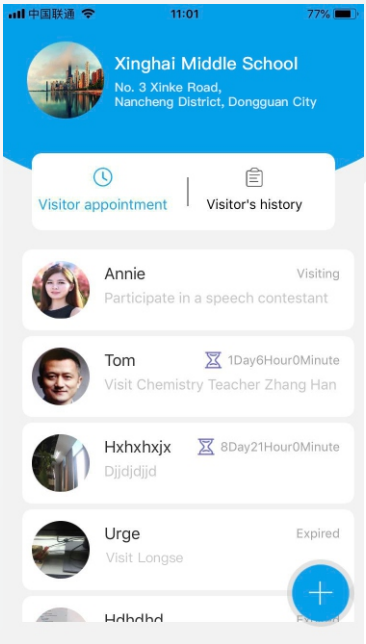
Report management

Trajectory tracking, record tracing, temperature monitoring, mask wearing records, abnormal notification.

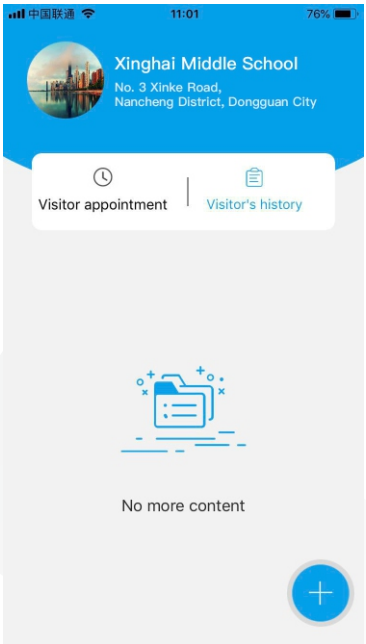
Data center

Personnel flow statistics, daily visitor statistics, abnormal temperature monitoring, abnormal trend distribution statistics, fever statistics.

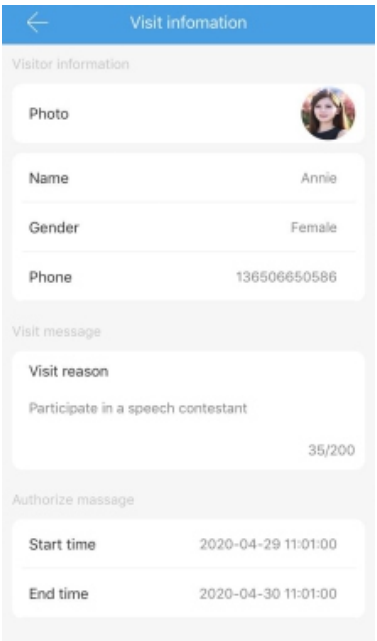
App management



Message push



Visitor appointment



Visitor details

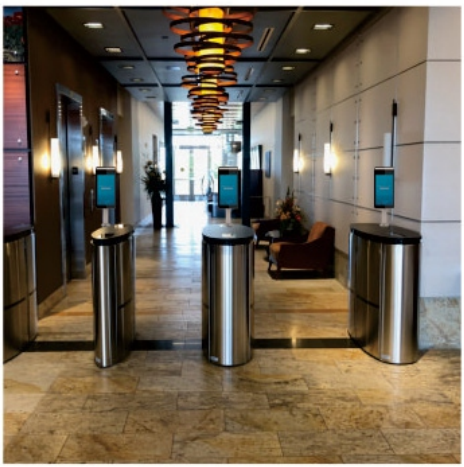
Real scenario solution case

Application scenarios: Government, hospitals, schools, office buildings, factories, supermarkets, hotels, airports, railway stations, tourist attractions, etc.

Covered countries: France, Italy, Germany, South Korea, Qatar, Thailand, Japan, United Kingdom, Russia, Turkey, etc.

Installation scenarios: Crowded entrance, temporary control area, indoors.

Ambient temperature of equipment: 10 ℃-50 ℃



Real scenario solution case

Recommended solutions for public transportation

Contactless induction

Fast face recognition

Fast pass

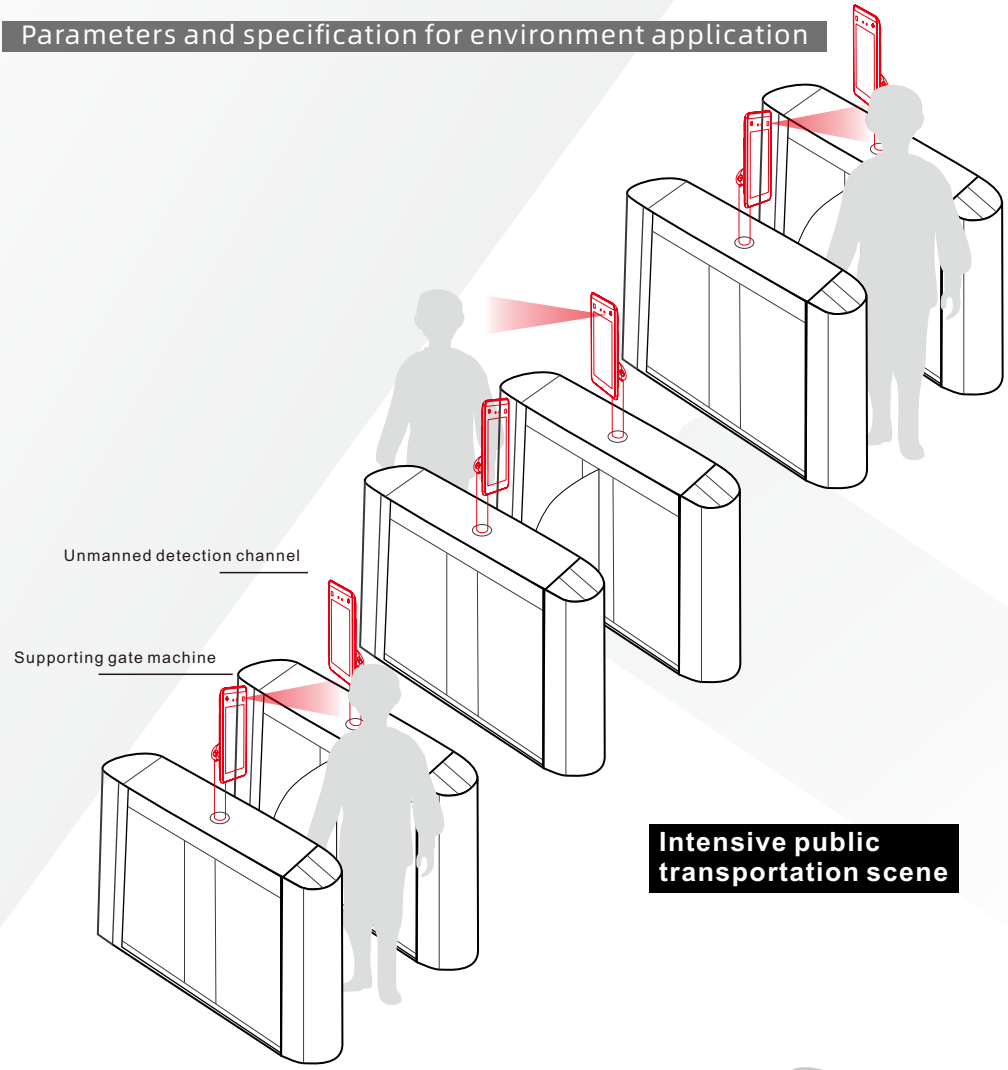
200ms fast recognition

Intelligent fever warning

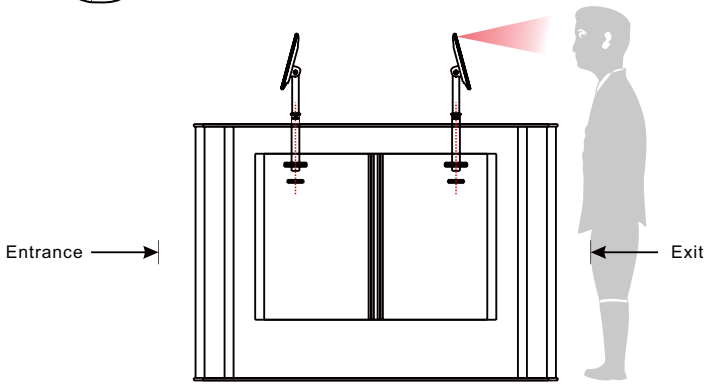
When the temperature exceeds the set value, the device will make a voice broadcast and this record will be saved in the database as abnormal.

No mask warning

When a person does not wear a mask, the device will make a voice broadcast and this record will be saved in the database as abnormal.



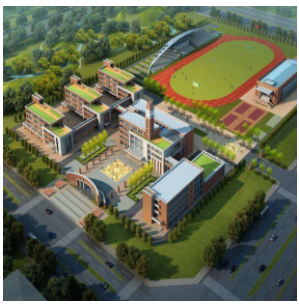
Intensive public transportation scene

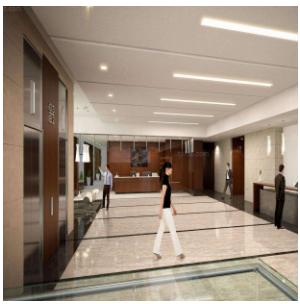


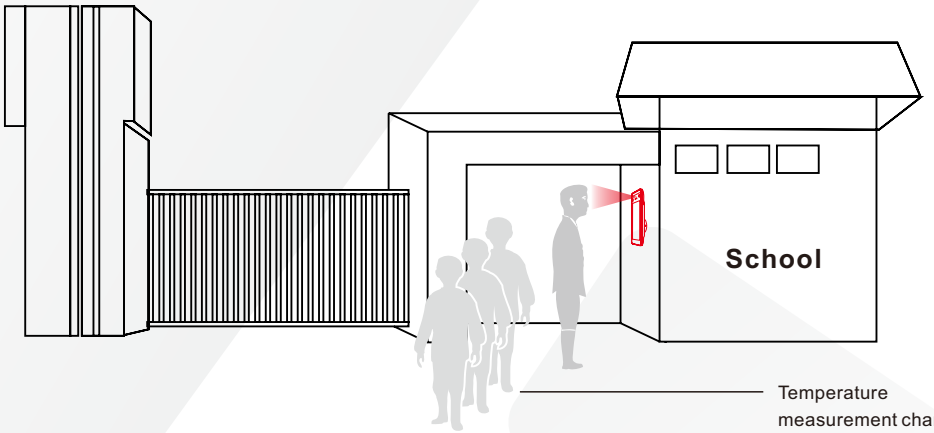
Recommended solutions for schools and government

The AI face recognition terminal is suitable for various real-name verification scenarios of humanoid entrances, such as schools, governments, office buildings and other pedestrian entrances.

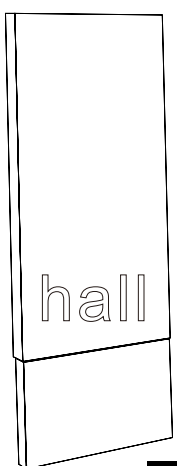
By installing the AI face recognition terminals in the crowded areas like teaching buildings, government entrances, and office buildings, we can measure temperature of passers-by in real time, and strengthen the prevention and control management and health monitoring, effectively coping to the peak of resumption of schooling and work, and minimize the risk to achieve a safety campus.

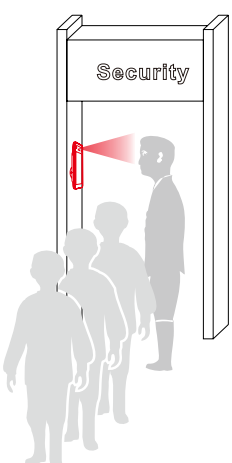






Temperature Measuring point in School





Temperature
measurement channel

Government temperature measurement and the security checkpoint

Recommended solutions for corporate offices

Contactless induction

Fast face recognition

Fast pass

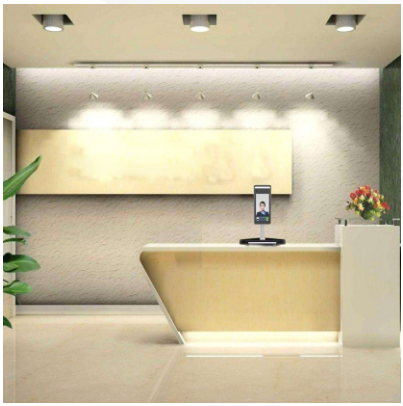
200ms fast recognition

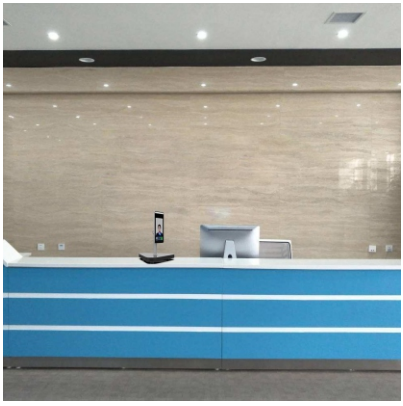
Intelligent fever warning

When the temperature exceeds the set value, the device will make a voice broadcast and this record will be saved in the database as abnormal.

No mask warning

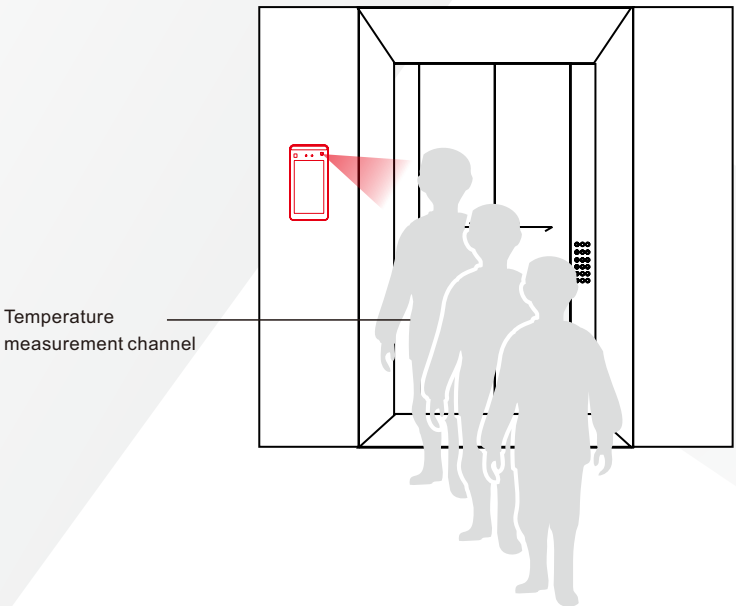
When a person does not wear a mask, the device will make a voice broadcast and this record will be saved in the database as abnormal.



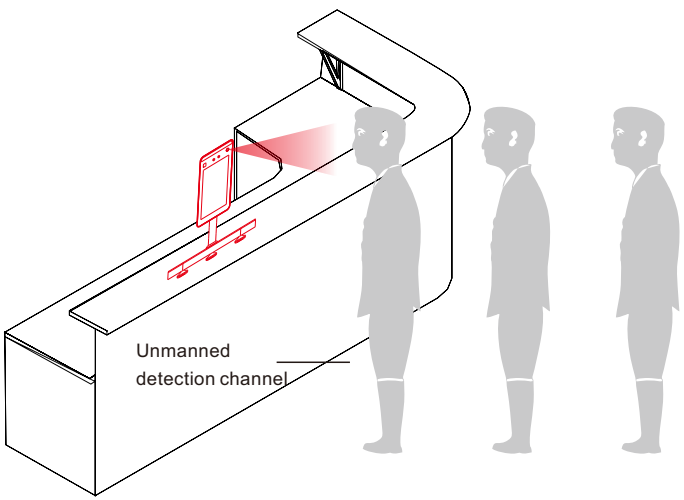


Parameters and specification for environment application

Application scenarios: office, dense area of up & down stairs, companies and factories.



Temperature Measuring area in office elevator

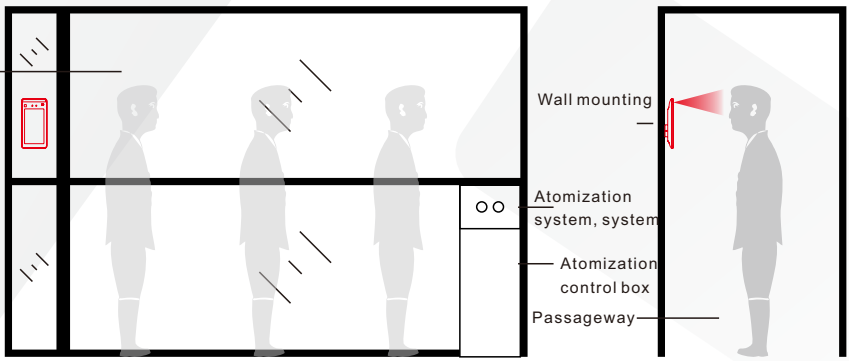


Temperature Measuring area in reception

Recommended solutions for hotels and shopping malls

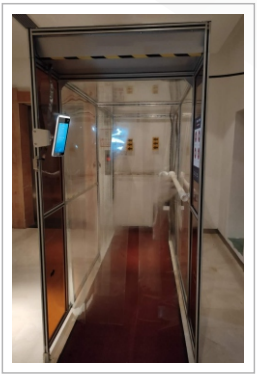
Integrated channel for temperature measurement and disinfection

The integrated temperature measurement and disinfection channel has functions of body temperature measurement and disinfection. The overall structure is shown in the pictures below, and the size can be customized according to requirements.
Function modules include: main-body tempered qlass channel frame, AI temperature measurement recognition terminal, control box, atomization system.
Ambient temperature: 10 ℃-50 ℃
The device is practical, efficient and easy to install.



Frame Structure as picture (1)

Glass Passage



Facial recognition terminal starting

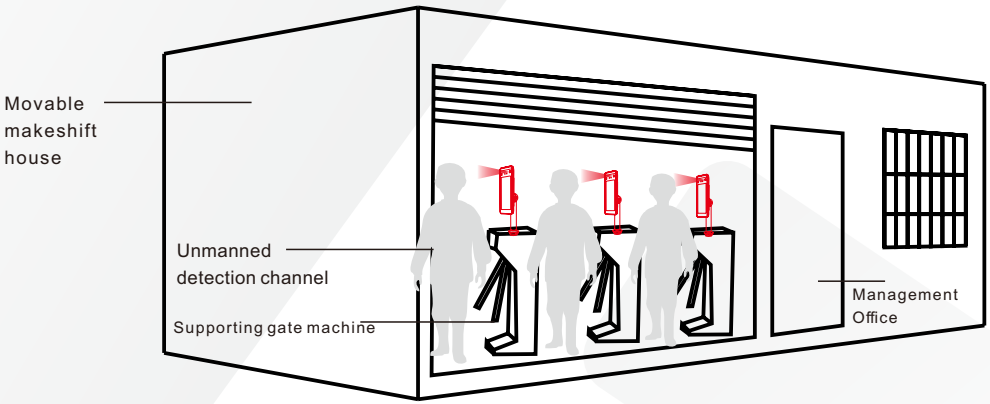
Facial recognition terminal installation

Final result

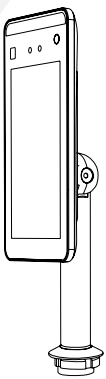
Recommended solutions for construction sites, stations, and makeshift sites

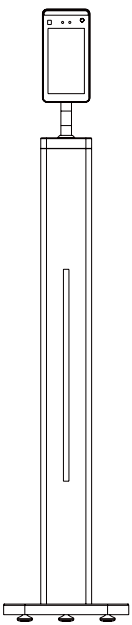
The movable makeshift house is also called "combined box house" or "container-like house". It uses color steel plate as the skeleton, laminboard as the enclosure material, and standard modular series for space combination. The components are connected by bolts. It is a new concept of environmentally friendly and economical movable makeshift house, it can be used as exhibition halls for real estate development companies, product sales exhibition halls, temporary reception centers, commercial temporary offices, shops, etc.

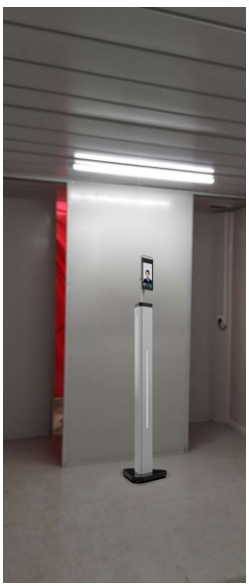
Movable makeshift house



Movable makeshift house





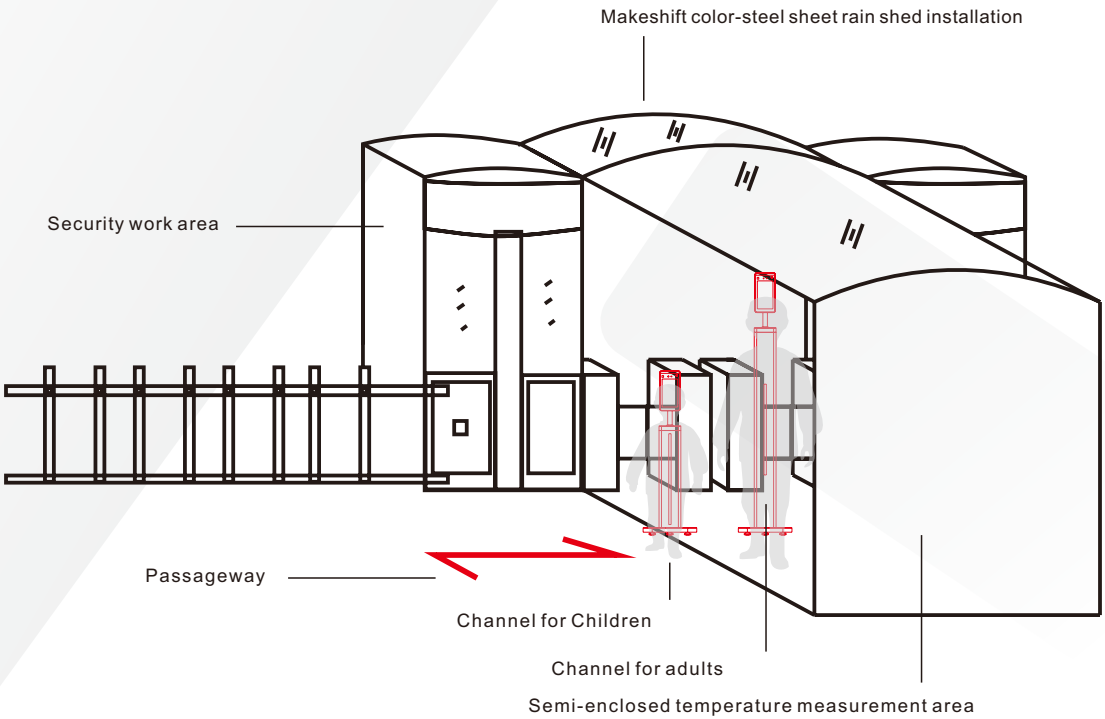


Recommended solutions for residential communities

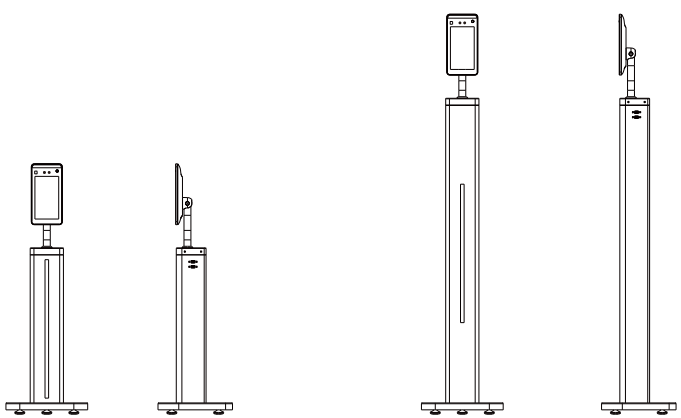
The rain shed, which is made of polycarbonate solid sheets, has characteristics of good light transmission, impact resistance, flame etardancy, low temperature resistance,sound insulation, etc, The most prominent features of the rain shed are with high strength,excellent durability, fire resistance and flame retardancy, good cleanability and freedom from the effect of ultraviolet radiation. It also has a service life of about 15 years. It is suitable for campuses and stadiums. It can withstand the sunlight for a long time without being yellow or fogging, with stable quality, no deterioration, light weight, easy to disassemble and easy to transport, and no potential risk of crushing heavy objects.

Parameters and specification for environment application

Application scenarios: residential communities, intensive public residences,student apartments, factory dormitories.



Makeshift color-steel sheet rain shed installation



For Children

For adults

Recommended solutions for makeshift checkpoints, stations, etc.

The tent is suitable for temporary site such as checkpoints and stations.

Features

Low cost, simple and flexible assembly and disassembly, fast transportation, convenient storage and space saving.

Common types of tents

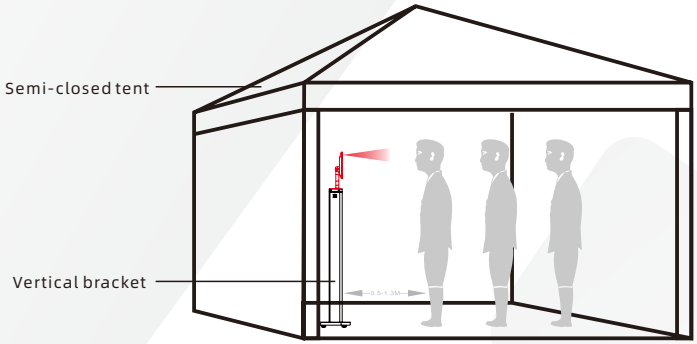
Simple skeleton tent

Steel structure rain shed

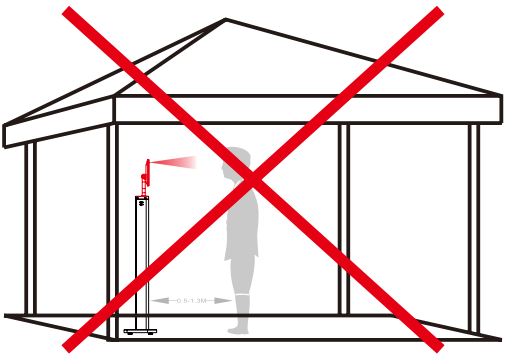
Military rain shed

Medical thermal insulation tent

Outdoor temporary passageway



Semi-enclosed temperature measurement site



Fully open temperature measurement place