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SensePass

SensePass Face Recognition Integrated Machine

Product Manual

CATALOGUE

SensePass Face Recognition Integrated Machine

1.Introduction

1.1 Briefly Description

SensePass is a convenient and secure industrial-grade facial recognition access control. Thanks to SenseTime latest deep learning facial recognition algorithm, authentication, access control and attendance can be processed efficiently. It is widely used in office building, park, school, station, enterprise & government office, exhibition hall and other places. SensePass020 helps customer control enter & leave intelligent and security. The system supports binocular infrared liveness detection. It is a new generation of intelligent face identification machine.

1.2 Highlights

● Accurate & fast identification: facial recognition can complete in 300ms. The recognition accuracy is higher than 99%. And face can be recognized within 2 meters.

● Large capacity: 20,000 human faces can be memorized in one machine.

● Excellent detecting functions: real-time detection and tracking of face, accurate detection in side face, semi-occlusion, blur and so on.

● Dark light recognition: minimum 0.5Lux recognition.No flashlight, user friendly design, detecting in low light environment accurately.

● Binocular infrared liveness detection: Effectively defend against spoofing attacks such as 3D printing portraits, electronic screens, videos, pictures, masks, hoods, etc.

● Standardized interface: Wiegand protocol & RESTful API interface support third system docking.

● Multiple recognition modes: face, QR code, card, face + card.

● Alarm or report: tamper alarm, door force alarm, door open too long alarm. Cryptographic attack, non-liveness attack and alarm will report to SenseLink system.

● Multifunction: employee & visitor management, machine management, attendance review, butch upload, group management, access strategy management, record search, data download, remote upgrade and so on.
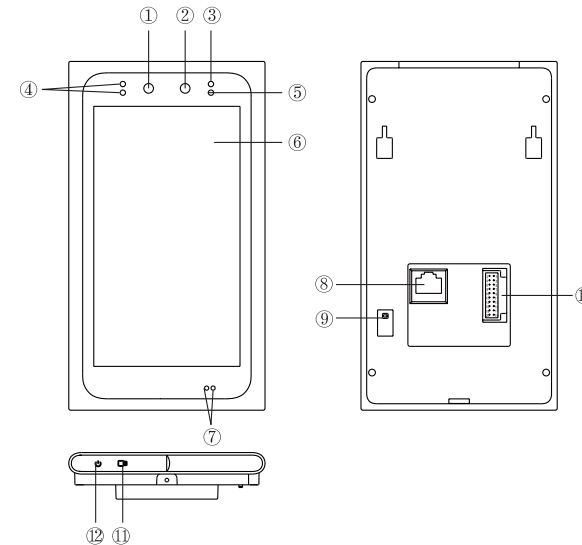
2.Hardware

2.1 Appearance

2.2 SPEC

SensePass Face Recognition Integrated Machine		
Model	SPS020-STD; SPS020-OM;SPS020-JV	
Character	Functions	Face recognition, attendance, liveness detection
	Using Environment	Indoor
	Dimension	162.22mm*91.30mm*15mm
	Weight	315g
	Sheathing Material	Aluminum alloy
	Color	Silver

Camera	RGB Camera	2m pixel 1080p
	IR Camera	2m pixel 1080p
	IR Supplement Light	
OS	Android 7.1	
HCI	Display Screen	5.5 inches 1280*720
	Touch Screen	Capacitive single touch screen
	Object Sensing Module	IR
	Buzzer	Response frequency：2.7KHz
	Power Switch	Concealed pinhole button
Communication	Ethernet	10/100/1000Mbps
	WIFI	IEEE802.11 b/g/n (2.4G)
I/O Interface	USB	USB2.0 HOST
	Relay	COM/NO/NC
	RJ45	10/100/1000Mbps
	RS485	
	Wiegand	I/O 26、32、34
	GPIO	The three expansion interfaces can connect with door contact, door open button, smoke alarm, doorbell.
	Power	DC12V/2A
Power	Adapter	DC12V/2A
	POE	PSE Class4
Environmental Requirement	Temperature	-20℃~60℃
	Humidity	20%~93% Non-Condensing
	Static protection rating	IEC61000-4-2, level3
Installation	Wall-mounted, Asian back box, vertical,	Metal bracket, concealed wiring, interface embedded in the wall, tamper alarm

2.3 Functions

P/N	Functions Description
1	IR Camera
2	RGB Camera
3	Photosensitive Sensor
4	IR Supplement Light（left）
5	IR Supplement Light（right）
6	Touch Screen
7	Object Sensing Module
8	RJ45 Ethernet Interface
9	Tamper Alarm
10	Hardware Wiring Slot
11	USB2.0 Interface（flash disk，card reader）
12	Power Key

Remarks: Detailed description of the hardware wiring slots

Type	Interface	Description
Power1	POE+(RJ45)	PoE (IEEE 802.3at) power supply
Power2	1(12V+) Red 2(12V+) Red 3(GND) Black 4(GND) Black	12VDC Input
Relay	5(NC)White 7(COM)Yellow 9(NO)Blue	Generally, the power+ of door lock is connected to the COM port, and the relay power- is connected to the NO port or the NC port according to the type of the door lock. Note: relay contact maximum load is 2A.
RS485	11(RS485B) Yellow 13(RS485A) Blue 15(GND) Black	Support RS485 extension
Exit Button	6(IN+) Yellow 12(GND) Black	Door exit signal input
Door Contact	8(IN+) White 12(GND) Black	The status of the door signal input
Doorbell	10(Doorbell) Green 12(GND) Black	Doorbell control signal Output 5mA

Output	12 (GND) Black 14 (5V+) Purple	Support for external devices. DC 5V MAX 500mA
Wiegand OUT	17(DATA0) Gray 19(DATA1) Brown 20(GND) Black	26bit/32bit/34bit
Wiegand IN	16(DATA0) Green 18(DATA1) White 20(GND) Black	26bit/32bit/34bit

3.Installation

You can SensePass Face Recognition Integrated Machine in three methods: wall-mounted, rack mounting (for speed gate), and vertical. Wall-mounted installation rendering:

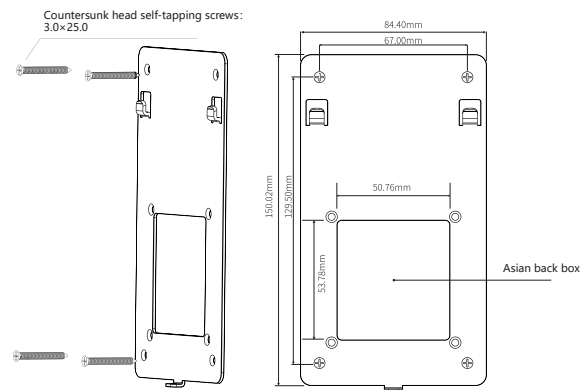Wall-mounted installation rendering:

Speed gate type installation rendering:

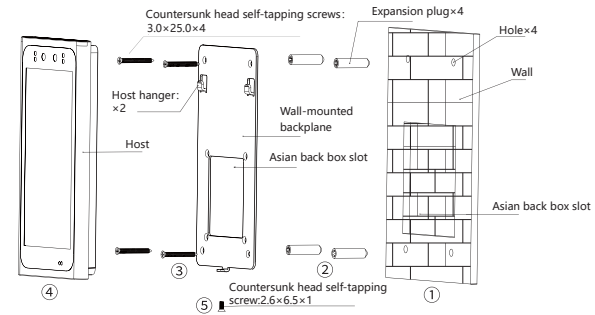Vertical type rendering:

3.1 Wall-mounted installation description

The equipment package contains a wall mount, as shown below.
Wall-mounted backplane size:

Countersunk head self-tapping screws:
3.0×25.0

84.40mm
67.00mm
150.02mm
129.50mm
50.76mm
53.78mm

Asian back box

Wall-mounted backplane supports standard Asian back box for easy construction and installation.

First, install wall-mounted backplane on wall, speed gate bracket or vertical bracket.
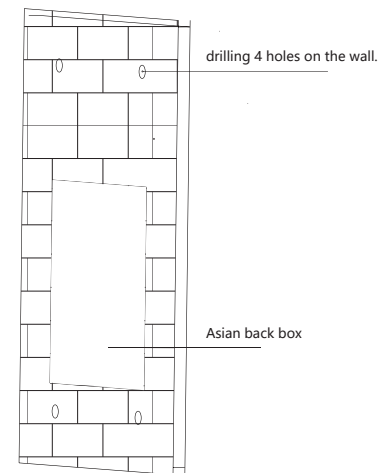Installation explosion diagram:

Countersunk head self-tapping screws:
3.0×25.0×4

Expansion plug×4

Hole×4

Wall

Host hanger:
×2

Wall-mounted backplane

Host

Asian back box slot

Asian back box slot

③

②

①

④

⑤ Countersunk head self-tapping screw:2.6×6.5×1
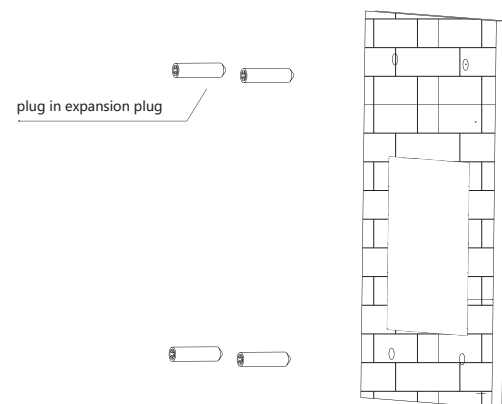
Installation order: ① → ② → ③ → ④ → ⑤

Remark:①drilling holes in the wall; ②plug in expansion plug; ③install wall-mounted backplane; ④hang SensePass020 on the hanger; ⑤lock machine with anti-theft screw.
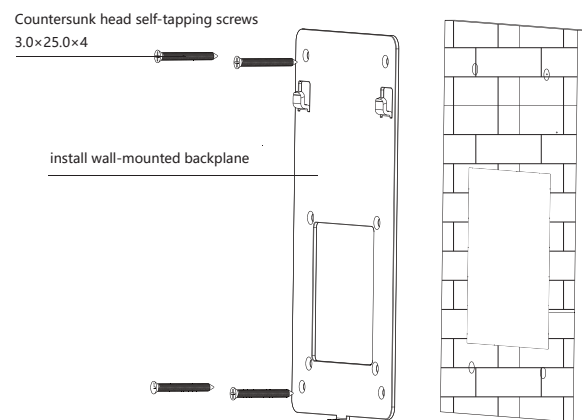
Installation steps
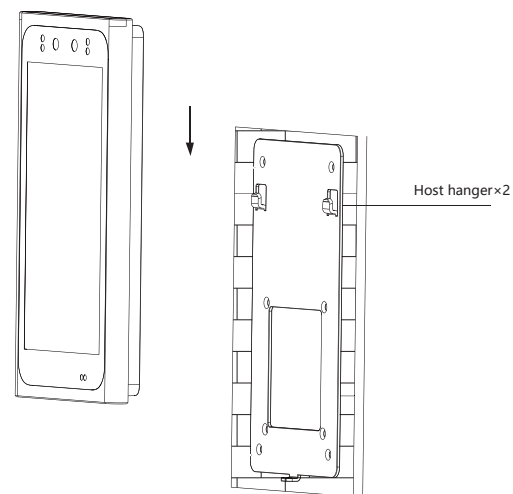
Step 1 drilling holes on the wall.

drilling 4 holes on the wall.

Asian back box

Step 2 screwing in expansion plug

plug in expansion plug

Step 3   installing backplane on the wall

Countersunk head self-tapping screws
3.0×25.0×4

install wall-mounted backplane

Step 4 hanging SensePass on the backplane

Host hanger×2

Step 5 locking with anti-theft screw.

locking with anti-theft screw

Remark:
Please refer to the relevant accessories related instructions for speed
gate and vertical installation.

4.Software Introduction

4.1 Account Applying

Please make sure you have SenseLink Cloud platform enterprise account before use. If you don't have account, pls contact business@sense-time.com for support.

The default initial login password is 'admin1234' for enterprise account, please change your password before use.

Please refer to our website for more details. https://link.bi.sense-time.com/docs/

4.2 Login and registration

■ 4.2.1 Login

1) Connecting internet first, then switch on SensePass. Input SenseLink Enterprise account and password if this is your first login. There is error prompt for login fails.

Figure 1-1 Login

2) Server: the device defaults to public cloud. In this case, you can log in directly to the SenseLink account. If you need to use private cloud server, you need to click the setting button in the upper right corner to configure the private cloud server address and log in again.

3) Server IP change: To change the server IP, you need to exit the APP to enter the login page, click the configuration button in the upper right corner of the login page to change.

■ 4.2.2 Device register

1) After the first login, you need to register the device, device name (MAX 50 characters, required), installation location (MAX 50 characters, required). The default device name and installation location are empty, you can enter manually.
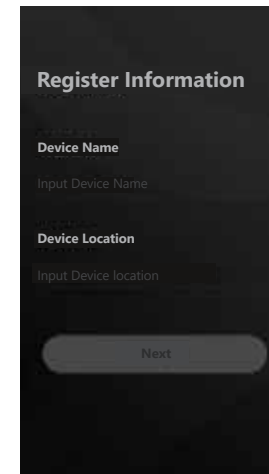

Figure 1-2 Device register

4.3 Face recognition

■ 4.3.1 Mode

For the first time entering the system, you need to select the recognition mode (Door mode/Gate mode) as shown below. Door mode has a circular mask one the screen, which is suitable for scenes with high matching degree and safety requirements. There is no circular shape in the gate mode, this mode is better applied to high-efficiency scenes.
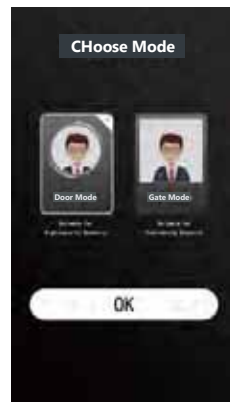
Figure 2-1 Choose Mode

Figure 2-2 Door Mode & Gate Mode

■ 4.3.2 Face recognition

The main functions of SensePass are face recognition and identity verification. When the face is close to SensePass, face detection will be performed automatically and quickly.

● Personnel identification success process: keep the face unobstructed, face to camera, when the face matches the database information, then prompt following information: 'recognition is successful' (the prompt can change), avatar, name, current time and other information (department, position, job number, ID number or custom information which was configured in the SenseLink system). If the door access control is connected, door will open, and the personnel can pass.

Figure 2-3 Recognition Success   Figure 2-4 Out of Access Period

● If the person is not in the transit time set by the administrator, then prompt "Not in accessible time", the door stays closed (in the case of connecting the access control). The unauthorized person is rejected effectively.

● If the SenseLink system does not have the relevant information of the personnel, the prompt "visitor, please contact the administrator" will show on the screen, the door can't open (in the case of connecting with door access control). If the doorbell is configured in the settings, the home page will display the doorbell button and visitor can click button to trigger the doorbell.

● If photos, videos, 3D models, masks and other nonhuman objects present in front of the SensePass, "non-living attacks" will prompt, the door can't open (in the case of connecting with door access control). Illegal attacks will reject on time.

■ 4.3.3 Intelligent Switching Supplement Light

When the device detects that the brightness is lower than a certain value, and the infrared distance sensor senses someone, the recognition interface will automatically switch to the supplement light background, and the face will light up, then face will be recognized like normal face. If no one show up, it will convert to the normal recognition interface again. The intelligent switching supplement light with normal interface make sure recognition every face normally, and non-continuously maintaining the supplement light can extend the working life of the screen.

Figure 2-5 Supplement Light

4.4 Standby

The device will automatically enter the standby state when no one passes for a certain time interval, the camera and other functions will stay in hibernation state, which can reduce power consumption and extend the working life of the device. When someone is approaching or tapping the screen, the device will automatically enter the identification interface and run normally.

Welcome,Face Recognizing...

Figure 2-6 Standby

4.5 Abnormal Reporting

SensePass uploads the alarm or de-alarming event to the SenseLink management system by monitoring the hardware status of the device. The alarm types include:

● Tamper alarm: when the tamper button of the device is pop up, the tamper alarm message will show at the interface of the device, then abnormality message will be reported to the SenseLink management system.

● Forcibly open the door: when the detection device does not open the door through the normal opening method such as face, QR code, card or exit button, buzzer will ring. And the front end of the device will pop up the tamper alarm prompt message, also the abnormality will be reported to the SenseLink management system.

● Fire alarm: When it is detected that there is a fire abnormality in the environment, the screen of the device will pop up a fire alarm prompt message, and the abnormality will be reported to the background.

● Door magnetic timeout: when the magnetic door is opened for more than the preset time, the abnormality will be reported to the SenseLink management system.

● Non-living attack: when a non-living attack such as a photo, video, paper, or mask is used, it will prompt 'Non-living' and report the abnormality to the SenseLink management system.

● Password attack: enter the wrong password multiple times, the device will limit the password input within a certain period of time, and the exception will be reported to the background.

4.6 Setting

■ 4.6.1.Setting start

Press and hold to the main interface for 2 seconds, then input the password to enter the settings. The settings include device information, access settings, and system settings.

■ 4.6.2.Device information

Device information includes name, location, number, IP address, serial number, company information, software version. The device name and location can be changed in the SenseLink management system, and the rest of the information is read only.

■ 4.6.3.Access setting

4.6.3.1Access group

The device will synchronize the access group with SenseLink management system account and download group information to machine. Click the access group to view the employee and visitor access group. For the access group personnel information upload, please refer to the SenseLink user manual.

Access group personnel query: customer can search group members by fuzzy search and exact lookup.
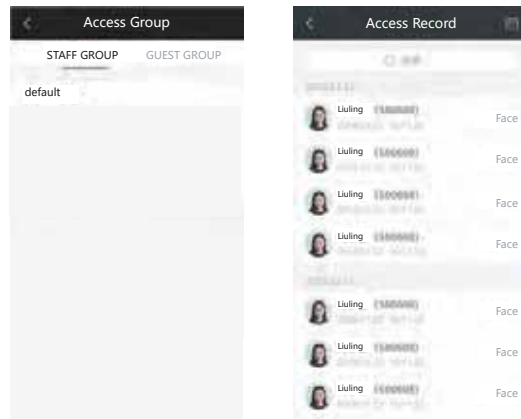
Figure 3-1 Access Group

■ **4.6.3.2Access Records**

By default, 20,000 records are saved locally. The records of the earliest time are cleared if the records exceed. The record is flashback arranged, the fuzzy and exact search is supported, and the records of one day can also be screened.
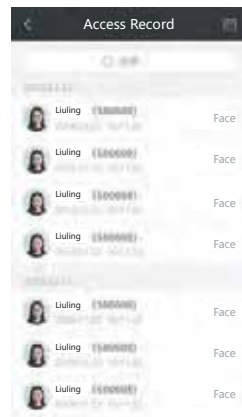

Figure 3-2 Access Record

■ **4.6.4.System setting**

4.6.4.1Function Setting

Recognition mode: gate mode / door mode can be selected freely.The gate mode is the full screen recognition interface.The access mode mask recognition interface circularly.

Verification mode: face, QR code, swipe,face + swipe.

4.6.4.2Face Setting

Liveness detection：ON/OFF, default is on；

Living threshold setting：setting between 0.00—1.00, default value is 0.98；Face matching threshold setting：the default is 0.83.

Adjustment value: 0.00-1.00；

Face recognition distance setting: default is 1m, support configuration 0.5m, 1m, 1.5m.

4.6.4.3Access control setting

Buzzer alarm: on/off, default is on, machine will trigger alarm when abnormal is detected. No local buzzer alarm when closed.

Door opening method: local relay, network relay, Wiegand 26, 32, 34;

Door opening time: the default time is 6s, supports adjustment between 1-30s；

GPIO：three ways expansion interfaces can connect with door contact, door open button, smoke alarm and doorbell.

Wiegand Input：26, 32, 34.

4.6.4.4System setting

Language Setting：Support Chinese/English

Automatic restart: default is on, support time point selection after opening.

Standby setting: default is on, support time selection after opening；

Restore the configuration: Support restore to the default value.

Restricted Substance Table

**Restricted Substance Table in
"Regulated Substances in Electronic Information"** ⑩

Partial name	Regulated Substances in Electronic Information Restricted Substance Table					
	Lead (PB)	Mercury (Hg)	Cadmium (Cd)	Hexavalent chromium (CrVI)	Polybromi-nated biphenyls (PBB)	polybromi-nated diphenyl ethers (PBDE)
Mental Parts	O	O	O	O	O	O
Plastic Parts	O	O	O	O	O	O
Circuit Board	O	O	O	O	O	O
Glass	O	O	O	O	O	O

Introduction:

1.0 indicates that the concentration of the substance of at least one of all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

2. X indicates that the concentration of the substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard.

Qualification Card
(PASS)

Warranty Card

Dear user,

Thank you for choosing this product. In order to fully enjoy the after-sales service, please read the instructions of this warranty card carefully after purchase and properly preserve.

1.With this card, you can enjoy the free warranty during the warranty period.

2.The warranty period is 1 year from the date of purchase.

3.Prioritize information about new products or opportunities for promotions.

4.Conditions as bellow are not covered by the warranty：
-Valid warranty card and invoice or receipt cannot be presented.
-Improper operating environment or other conditions, such as inappropriate power supply, temperature, humidity, lightning strikes, etc. result in product failure.
-Product failure due to accidents, negligence, disasters, improper operation or misuse, and cyber-attacks.
-Failure or damage caused by installation, repair, modification or disassembly of maintenance personnel who isn't authorized by the SenseTime.
-Exceeding the warranty period.

5.If you have any objection to the technical service provided by the dealer, you can complain to the manufacturer's customer support service center.

6.The warranty card is valid only after being stamped by the warranty unit.

User			
Address			
Tel		Fax	
Zip Code		E-mail	
Model		S/N	
		Date of Purchase	

If you have other needs, please write here

Franchiser: Tel:

FCC statements:

Federal Communication Commission (FCC) Radiation Exposure Statement
When using the product, maintain a distance of 20cm from the body to ensure
compliance with RF exposure requirements.

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.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by
unauthorized modifications or changes to this equipment. Such modifications or
changes could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class
B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to
provide reasonable protection against harmful interference in a residential installation.
This equipment generates uses and can radiate radio frequency energy and, if not
installed and used in accordance with the instructions, may cause harmful interference
to radio communications. However, there is no guarantee that interference will not
occur in a particular installation. If this equipment does cause harmful interference to
radio or television reception, which can be determined by turning the equipment off
and on, the user is encouraged to try to correct the interference by one or more of the
following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the
receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

IC statements:

Radiation Exposure Statement:
This equipment complies with IC radiation exposure limits set forth for an uncontrolled
environment. This equipment should be installed and operated with minimum distance
20cm between the radiator & your body.

Déclaration d'exposition aux radiations:
Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies
pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec
un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This device complies with Industry Canada license-exempt RSS standard(s).
Operation is subject to the following two conditions:
this device may not cause interference, and
this device must accept any interference, including interference that may cause
undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS exemptes de licence standard(s).
Son fonctionnement est soumis aux deux conditions suivantes:
(1) cet appareil ne peut pas provoquer d'interférences, et
(2) cet appareil doit accepter toute interférence, y compris celles pouvant causer un
mauvais fonctionnement de l'appareil.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.