ZKTeco

Green Label

Introduction Guide

Green Label

MAKE YOUR LIFE SPARKLE WITH BIOMETRIC INNOVATION

Introduction Guide

Content

ZKTeco Introduction

ZKTeco, founded in March 1998, is the globally leading enterprise of hybrid biometric verification technology, and has been for consecutive years selected as Top 10 Security Brands in China, and Top 10 National Brands in China. ZKTeco business covers various security and time management products and solutions, including time & attendance, access control, visitor management, carpark management, elevator control, video surveillance and smart locks etc. For years, ZKTeco has been experienced and innovating in the development and production of hybrid biometric verification technology, and owns the most patents and intellectual property rights registrations. ZKTeco is always promoting the development of hybrid biometric verification technology, and applies the technology to smart office, smart finance, smart traffic, smart security etc., and has been the first enterprise to provide comprehensive entrance management, car entrance management and freight inspection solutions. Today, ZKTeco owns the largest global service network in the industry, our businesses and partners are widely distributed all over the world, and there are more than 22,000,000 users daily in 180 countries and regions daily. ZKTeco is always striving to satisfy the needs of our clients, our branches offices have been located in more than 20 countries and regions, and we are expanding and exploring new markets. To provide the best user experience to clients, this is what ZKTeco always does.

50+ Global Branch Offices **20+** Global Exhibitions **3500+** Global Signed Clients

Almost 1000 R&D engineers

More than 500 sales people

More than 200 foreign employees

More than 500 technical consultants

More than 1000 workers

History
Timeline

1998
ZKTeco founding team release its in-house developed fingerprint algorithm ZKFinger2.0, which are widely applied to PCSecurity and identity authentication field, and strives for the development of independent face recognition algorithms, fingerprint verification techniques in applications of identity card, as well as has started its exploration in biometric verification professions.

1999
ZKTeco announces it will enter the industrialized civil market of biometric verification technology in a press conference co-held with Identix from USA in Shanghai, and released V20 access control device and computer protection product Biologon

2002
Applied a 7,000,000 Shanghai Citizen Card Fingerprint Project, Provided fingerprint verification technology for more than 7,000,000 citizens, and has been the most authorized core technology provider in the field

Released ZKFinger 3.0 SDK

2004
Released a series of fingerprint products and modules, including F4, the first fingerprint access control device
Becomes aninternational OEM provider for fingerprint products

2007
Launched iClock series, the TFT time & attendance management products, which lead fingerprint verification industry to a new TFT era

The advancement of fingerprint products with the high-performance Wi-Fi and GPRS communication technology has initiated the new generation of wireless security control and time management

2009
In 2009, ZKTeco launches the facial recognition algorithm ZKFace3.0, embedded hybrid biometric verification development tool ZEM600 Series, and face and fingerprint hybrid verification time attendance terminal. Dongguan Industry Base and subsidiary in U.S. are established.

2011
Launched BioCam100, the First-in-the-World embedded face recognition camera

Launched InBio series, the First-in-the-World fingerprint access control panel

Established branch offces in Dubai, Thailand and Mexico

2012
ZKTeco launched the first multi-biometric algorithm integrated with fingerprint, face, iris and vein recognitions

2013
ZKTeco established manufacturing centre for various products of entrance security and parking management

2014
ZKTeco launched the first-in-the-world face identification door lock and established Xiamen Software Centr
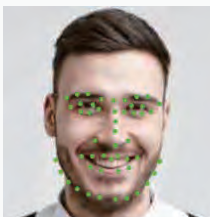
2015
Released ZKTime.Net 3.0, a new generation of time & attendance management software

Announced the opening of ZKAccess, the new independent security division in US

2016
Released X-Ray series inspection series and officially approved by the Ministry of Public Safety China

Established Security Research and development Center in Italy

Established branch office in the UK

2019
Released the ZKLiveFace5.6 visible light facial recognition algorithm, which supports 1: N 50000 facial templates; Released the ZKLiveFace12.0 large-capacity near-infrared face facial recognition algorithm, which supports 1: N 12000 facial templates.

2020
Released Computer Vision Palm Recognition Intergrated VMS with ZKBioSecurity

What is Green Label

Green Label, a premium product line by ZKTeco, focuses on offering high-end Time & Attendance, Access Control and System Integration products with maximum security, nice user experience and ultimate convenience. With technical advancements including Visible Light Facial Recognition, SilkID Fingerprint Verification and improved hardware and software, Green Label enables truly one-Stop and customizable solutions of entire systems including 3rd party system integrations. With ZKTeco as a leading global security and time & attendance solution provider, you enjoy our strong sales and aftersales supports, global sales channels with more than 30 overseas branches, strict price structures, and maximum price and tender protection.

ZKTeco Green Label Series, your only optimal choice of top-notch Security and Time & Attendance Solutions.

Why Green Label ?

Cutting Edge Biometric Technologies

Visible Light Facial Recognition Technology
• Proactive Facial Recognition
• New Height of Anti Spoofing
• Speedy Recognition (in 0.5 second)
• Wide Pose Angle Acceptance (+/-30degree)
• Touchless for better hygiene

SILKID Fingerprint Technology
• Operability under strong sunlight
• Anti-spoof detection capability and superior image quality
• FBI/ISO standard fingerprint templates
• Eco-friendly and power saving

Hybrid Biometric
• High Standard of Security Level, cross check between different biometric recognitions
• Providing various biometric options & RFID in single device

End-to-end Solution

• Providing entire security systems from hardware to software
• Own factory for manufacturing ZKTeco's products from PCB to biometric modules to final product.
• Over 500 software engineers for security system development including software, firmware and UI etc.

Open for Customization

For most enterprise-grade end users with special requirements and needs, in order to provide better solutions, ZKTeco opens up our solution products for customizations:

- Hardware and firmware
- User interface
- Special software / hardware add-on functions
- 3rd Party system integration & Database Mapping

Extra long Warranty period and product life cycle

- 36 months hardware warranty
- 12 months software warranty
- 12 months free software upgrade service
- At least 5 years hardware life expectancy (guaranteeing that hardware will not be discontinued in 5 years from purchase)
- All Green Label faulty devices have the priority right to be repaired

Global Sales Channel

- Over 30 overseas branches to help our partners to provide global aftersales services to their international-enterprise clients
- Global Connection to share with our partners helping them to deploy our system easily
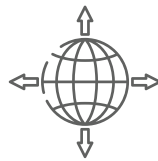
ZKTeco Brand Awareness

- World's biggest biometric solution provider
- Deployed our solution to more than 35% of the Fortune 500 enterprises
- Industry Leader, as a Founding member of CBA (Chinese Biometric Association) and SEABA (South East Asia Biometric Association), Thailand Biometric Association, India Biometric Association & member of FIDO
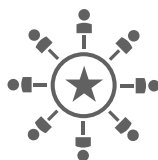
One-stop Solution Provider

• Providing one stop solution from hardware to software and accessories
• Providing solutions including access control, time and attendance, entrance control, Security inspection, car park management, hotel management, video surveillance and computer vision analysis.
• Supports almost all types of RFID card formats

Hardware Advancement
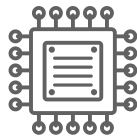
• Higher storage capacity up to 50,000 Facial templates, 40,000 fingerprint templates and 100,000 records in a single standalone device
• Innovative Visible Light facial technology, which offers an outstanding performance of facial recognition of all kind of facial conditions, with make-up, glasses, hat, etc
• The latest high speed CPU boost up the biometric recognition speed to less than 0.5 seconds
• Providing varies biometrics (Facial, Fingerprint, Palm, Vein & Iris) and other recognition such as, RFID, UHF, QR code, barcode, Pin and smartphone
• Visible Light Facial recognition terminal provide adjustable biometric parameter for end user to adjust security level among different deployed areas
• Supports mobile snap shot facial registration with anti-spoof function

Software Advancement:

• Provides all web-based software, which greatly enhanced multi-person management experience
• Supports add-on High-Availability function, greatly enhancing system stability and security level
• Supports HTTPS protocol for a stable and secure communication
• United and neat UI design, easy for new comers to pick up operation

Customer Oriented Marketing Strategy

• Globally standardized policies with strict price structure and approval system to eradicate online sales
• The project-registration policy offers the maximum price and tender protection to the Green Label Client
• All software are controlled by paid-license

Software & Solution

"All-in-One" Web-Based Biometric Security Management Platform
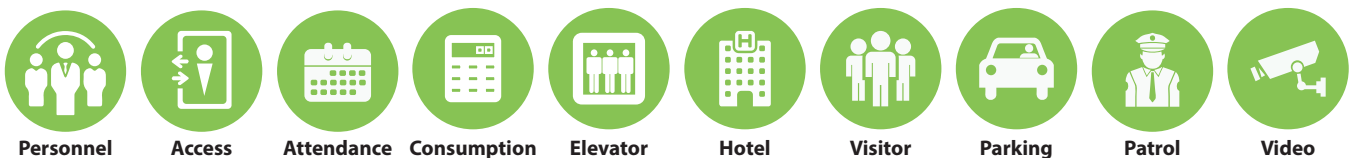
| Personnel | Access | Attendance | Consumption | Elevator | Hotel | Visitor | Parking | Patrol | Video |

ZKBioSecurity is the ultimate "All-in-One" web-based security platform developed by ZKTeco. It contains multiple integrated modules: access control, time & attendance, consumption management, elevator control, visitor management, parking, guard patrol, FaceKiosk and intelligent facial recognition camera management, video (VMS) and other sub-systems. All sub-systems support both single-unit deployment and exible deployment combination of multiple modules with e ective linkage; and provide powerful integration capabilities and user visual data presentation analysis for various industries, truly achieving large-scale system-wide security intelligent management.

Features:

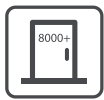|		
Professional Video Management System	Smooth and Advanced Visitor Management	High Security Data Transmission
FaceKiosk Management	Visible Light Facial Recognition	Micro-Service Architecture
All-In-One Biometric Security Solution	Web-Based Platform	Consumption Management
Extra Large Management Capacity of Doors	Email Notifications	Face Intellect-Unconscious Access Solution
Time & Attendance	Flexible Elevator Control	LPR Camera for Parking
Global Anti-Passback and Linkage	Mobile APP	OCR

- All-in-One solution with 10 modules and other sub-systems, flexible for projects in all sizes and various industies
- Standard access control features and new professional A&C functions (Global Anti-Passback, Global Linkage, Global Interlock) available, satisfying different customers' needs
- Professional Video Management features such as real-time preview, video playback, alarm linkage, video decoding, monitoring with face images of individuals, alert for white/ black list personnel and so on, providing multiple functionalities for various applications
- Camera linkage and multiple linkage actions
- Smooth and advanced Visitor Management module; streamline enrollment with pre-registration or self-registration options, allowing users to create their own watch lists against unwanted visitors
- Security enhancement, such as improving the security of user passwords by avoiding the risk of password cracking by chance
- Multiple languages supported: English, Spanish, Chinese (Simpli ed), Chinese (Traditional), Russian, Indonesian, Thai, Vietnamese, Korean
- Standard third-party interface with strong platform expansion capability

All-In-One Diagram

"All-in-One" Web-Based Biometric Security Management Platform

ZKBioSecurity

Elevator Control Panel

EC10
- Secure, scalable and versatile
- Elevator Controls and Expansion Boards

Multi-Biometric Time Attendance & Access Control Terminal

G2
- Multiple Verification Modes:
  Face/ Fingerprint/ Card / Password
- Dry, Wet and Rough Fingers
- SilkID Fingerprint Sensor
- Built-in Camera: Event Snapshot and User Photo

Visible Light Facial Recognition
- Visible light facial recognition
- Time attendance recorded
- Elegant and robust design

Revolutionary 3-in-1 Contactless Palm Recognition Terminal

G3 Pro
- Multiple Verification Modes:
  Palm/ Face / Fingerprint / Card / Password
- Dry, Wet and Rough Fingers
- SilkID Fingerprint Sensor

Video Surveillance
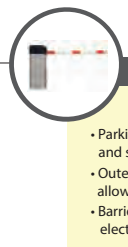
BS-854N11K
- 4.0MP, H.265
- 1/3" Sony CMOS, WDR
- IR: 20M
- ONVIF2.4
- IP67
- P2P, Mobile View

Outdoor & Vandal Resistant Facial Recognition Terminal

Proface X
- Proactive Facial Recognition
- Speedy Recognition and wide Pose Angle Acceptance
- Enhanced Visible Light Facial Recognition
- New Height of Anti-Spoofing and Touchless for Better Hygiene
- Multiple Verifications: Face/ Card/ Password
- IP68 waterproof and IK04 impact protection rating design
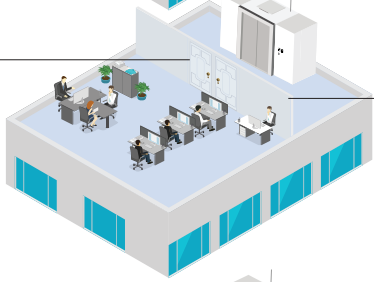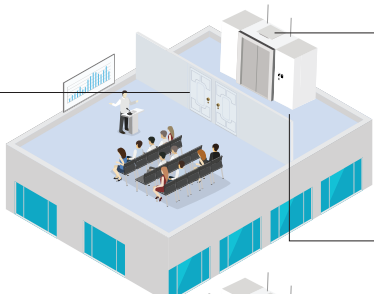
Entrance Control

SBTL8000
- 10 pairs of infrared sensors for stronger tailgate detection
- Easy switch, easy installation - RFID, fingerprint, face, etc.
- Bi-directional operation control
- LED passage indicator in both directions
- Emergency mode allows free access when power failures or emergency
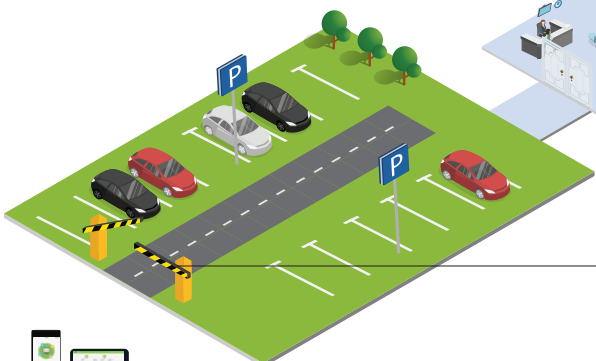
Parking Barrier

PB4000
- Parking barrier can be raised and lowered smoothly and steadily
- Outer and interior casing can be separated easily allowing for maintenance and customization
- Barrier gate can be fixed to the floor and connected electronically allowing for simple installations

Professional Sercurity Software

ZKBioSecurity
- All-In-One solution
- Simple Structure and Smooth Workflow
- Multi-door Management Capacity
  (Up to 2,000 doors in Single Server and unlimited doors in Multi-Server)

ZKBioSecurity Server

ZKBioSecurity   **ZKBioSecurity**   **ZKBioSecurity**   **ZKBioSecurity**

🇺🇸 USA Office   🇦🇺 Australia Office   🇫🇷 France Office   🇮🇩 Indonesia Office
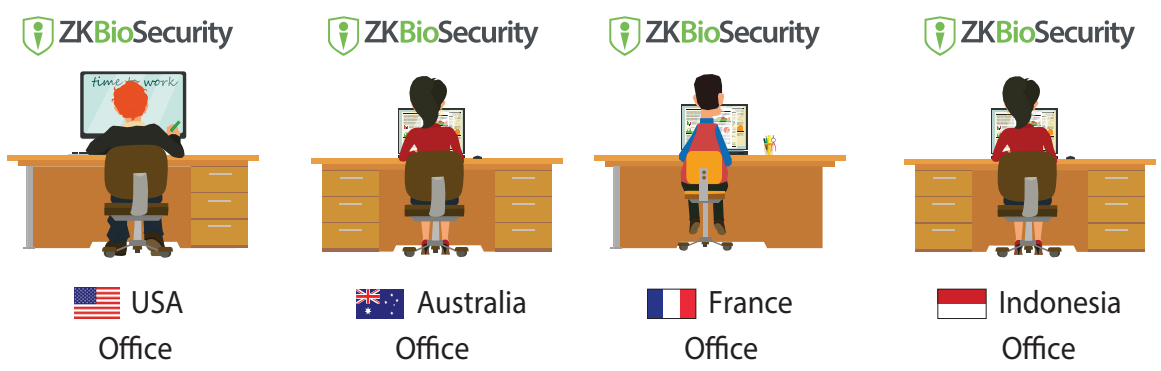
ZKBioSecurity is the ultimate "All-in-One" solution which offers a complete security management platform, it comes with 10 integrated modules.

1) Personnel	4) Consumption Management	7) Visitor Management	10) Video Linkage
2) Access Control	5) Elevator Control	8) Parking System	11) System Management
3) Time & Attendance	6) Hotel Management	9) Patrol	

Personnel

Personnel primarily consists of two parts: Department Management settings, which is used to set the Company's organizational chart; and Personnel Management settings, which is used to input personnel information, assign departments and sub-departments (more than 10 levels), maintain and manage personnel information and setting.

Access Control

Access Control is a web-based management system which enables advanced access control functions, management of networked access control panel and standalone devices via computer, and unified personnel access management. The access control system sets door opening time and levels for registered users.

Time & Attendance

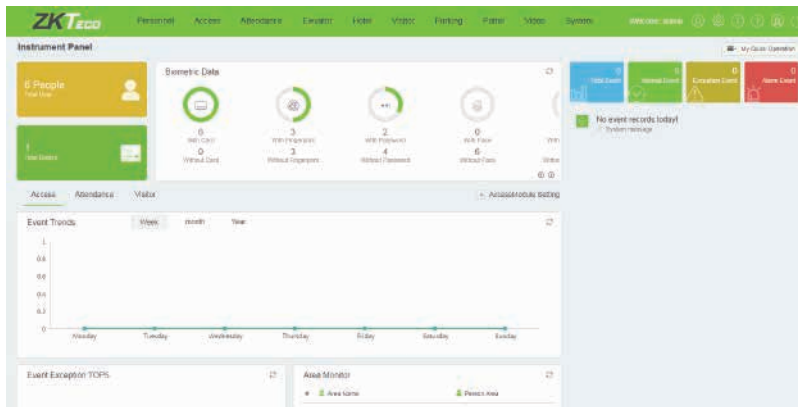As an "All in One" security platform, the ZKBioSecurity contains a web-based time attendance module. Administrators can manage the Time Attendance anywhere once they can access to the Internet. Moreover, this is an powerful Time Attendance system, which can handle most of the complicated time attendance circumstance, such as, flexible shifts, multi-level OT, cross day shift and online leave application with multi-level approval.

Consumption Management

ZKBioSecurity consumption is a desktop-based restaurant management software module designed to offer restaurants all necessary and useful tools to speed up service and increase efficiency of operation. The customizable options offered in the system is ideal for any restaurant type including fine dining restaurants, bistros, fast food chains, cafes, bars, etc. ZKBioSsecurity consumption module helps staffs to complete their tasks efficiently in line with their operational style and business.

Elevator

Elevator Control is designed to control the elevator access authentication, to manage access rights (using RFID card, Fingerprint, and other biometric technology) to different floors and supervise elevator events. Administration can set floor level for the registered user and interact with the access control module to achieve the one stop management purpose. Only the authorized users can access to certain floors and doors within a period of time after being authenticated.

Hotel Management

Provides hotel service management functions covering check-in, overstay, check-out, rate settlement, and lock setup and management.

Visitor

Visitor Module is a web-based management system that implements entry registration, exit registration, snapshot capturing, visitor quantity statistics, reservation management and shares information among registration sites. Integrated with the access control and elevator control module, it is used at the reception desks and gates to manage visitors.

Parking Management

Automatic and intelligent vehicle management effectively and accurately monitors and manages vehicles at all exits and entrances.

Guard Patrol

The Online Guard Patrol module is the new cost-effective way to accomplish guard patrol management. ZKBioSecurity can utilize the access control readers already in place as guard patrol check point readers. ZKBioSecurity terminals and readrs boast biometric technology for added security. No additional equipment is required for the guard to carry.

Video

For high-level security demand, a video surveillance management platform is essential to most of the premises. ZKBioSecuirty provides a video surveillance module which supports real time video and query video records, real time video pop-up alert when linkage event occurs. Moreover, this module can integrate with 3rd party cameras through private protocol and ONVIF. This module can also interact with other ZKBioSecurity modules such as access control, visitor, patrol, parking and hotel management.

System Management

System Management is designed to assign system users, configure the corresponding modules, manage the database, set system parameters and manage the system operation logs.

GREEN Label

Software & Solution

Web-Based Multi-Location Centralized Time Management Solution

✓ BioTime

Automatically transferring transactions to the server

Easily manage hundred of T&A devices under complex network (LAN/WAN/GPRS/3G/VPN)

Multiple administrator who can access the web-based system

Easy to set Timetable and Shift
Easy to assign Schedule
Easy to generate Report

Features

Web-Based Time Attendance Software

Flexible and Smart Shift Scheduling

Employee Self-Service

E-mail Alert for Approval Request

Auto-Synchronization of Biometric Templates by Area

Multiple Admin Privilege

Multiple Approval

Real-Time Monitoring

Attendance Calculation and Reports

Supports Multiple Languages

Easy Integration with API

Mobile Application

Download on the App Store

GET IT ON Google Play

BioTime 8.0

Web-Based Time & Attendance Management Software

BioTime 8.0 is a powerful web-based time and attendance management software that provides a stable connection to ZKTeco standalone push communication devices by Ethernet/Wi-Fi/GPRS/3G and working as a private cloud to other employee self-service by means of mobile application.

Multiple administrators can access BioTime 8.0 anywhere using a web browser. It can easily handle hundreds of devices and thousands of employees and their transactions.
BioTime 8.0 comes with a friendly user interface that is able to manage timetable, shift and schedule and can easily generate attendance report.

Web-Based Multi-Location Centralized Time Management Solution

Retail shop in France

G3 Pro Multi-Biometric Contactless Palm Recognition Terminal

Retail shop in Indonesia

G2 Fingerprint Time Attendance & Access Control Terminal
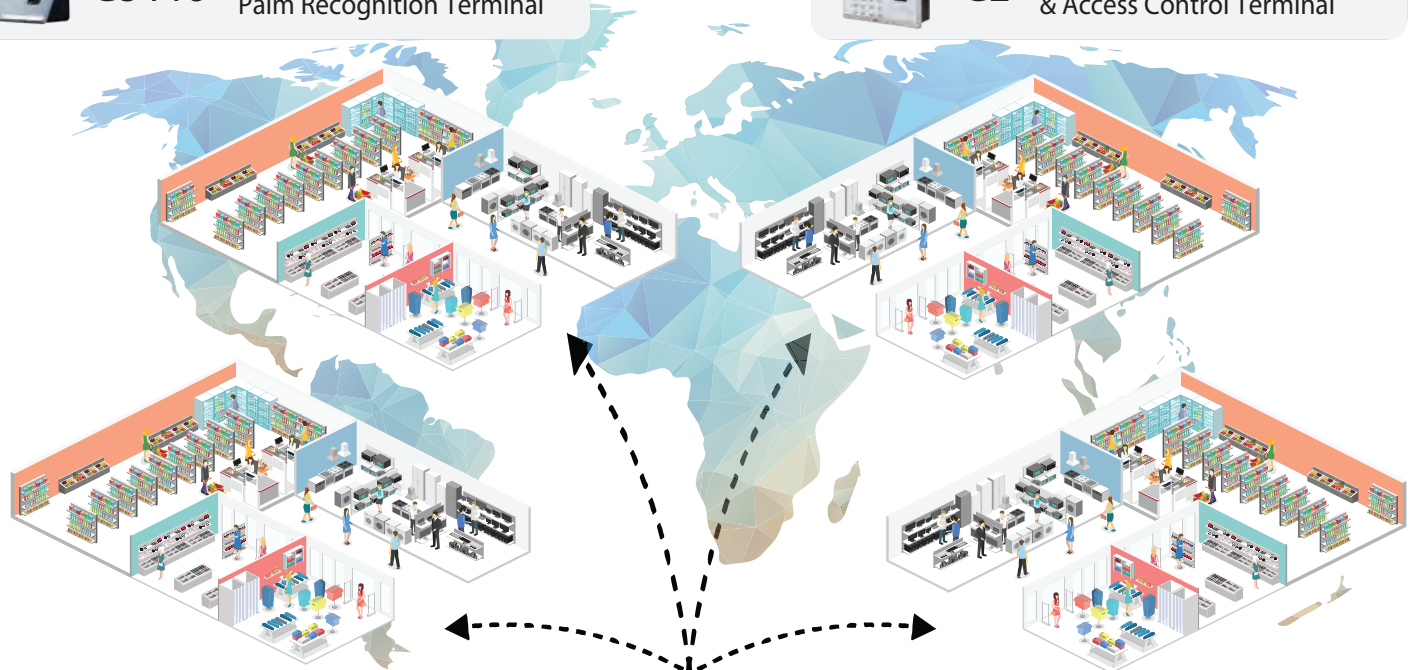
Retail shop in USA

G3 Plus Anti-Glare Face & Fingerprint Time Attendance & Access Control Terminal

Retail shop in Australia

G4 Multi-Biometric Attendance & Access Control Terminal with Visible Light Facial Recognition

BioTime
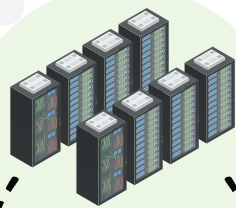
✓BioTime   ✓BioTime   ✓BioTime   ✓BioTime

🇺🇸 USA
Office
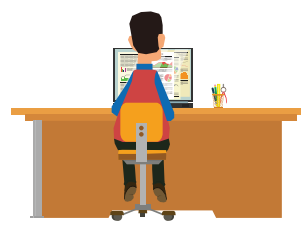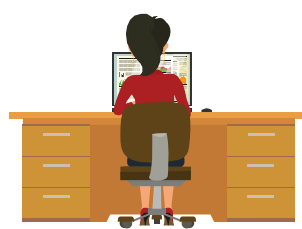
🇦🇺 Australia
Office

France
Office

Indonesia
Office

Green Label x Palm Recognition

In 2016, ZKTeco first introduced the touchless palm recognition technology which was a breakthrough of touchless biometrics recognition, it was the first and the only recognition available. However, the previous technology was constrained by the angle tolerance and short recognition distance resulted in an imperfect user experience solution. After 5 years of R&D and the technological bloom of computer vision, in 2019 ZKTeco is going to launch the next generation **3-in-1 Palm Recognition Technology**.

Product Introduction :
What is Palm recognition technology

The newest generation of palm recognition technology is fully upgraded in all aspects in terms of recognition method, which combines palm, palm print and palm vein recognition as one, with the help of the delegated computer vision biometrics CPU, the whole recognition process can be finished in 0.35 second. Moreover, the computer vision technology has greatly enhanced the recognition performance, the angle tolerance is improved to as wide as +/- 60 degrees (roll axis), and the recognition distance can be up to 0.5 meters upon the palm-size. Most importantly, the anti-spoof ability has reached a new height of the industry, as the testing result has shown, all the testing subjects including, fake HD photos, fake HD video, and fake palm model cannot stand any chance to crack the system.

Recognition Process

1

When the palm close to the camera, the camera will first function the palm recognition process to identify whether this is a palm, if the nearing object is not a palm, it will stop the further recognition process. If the nearing object is a palm, it will pass it to the next step

2

After the palm recognition process, the infrared camera will be activated, and then processing the palm print recognition and palm vein recognition simultaneously, the camera will recognize the feature point of the palm print and cross-check with the database.

3

Meanwhile, the infrared camera will use the infrared light to observe the palm vein, which is normally unobservable by the human eye, same as the palm print, it will recognize the feature point of the palm vein and then cross-check with the database for its availability.

Palm Recognition

Palm Print Recognition

Palm Vein Recognition
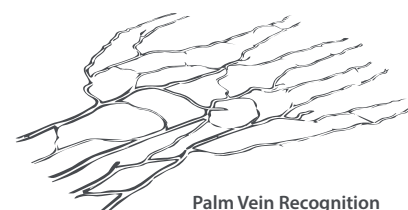
Technological Features
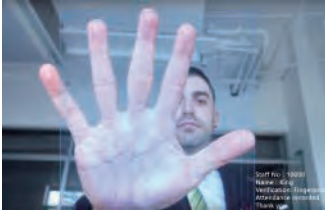
Anti-spoofing Technology
With the help of Computer Vision technology, the anti-spoof ability has been greatly enhanced. The 3-in-1 combination of palm, palm print and palm vein sets an extremely high bar for spoofing attacks to pass through. All attacks are guarded throughout three layers as follows:

1st Layer - Palm Recognition
The latest algorithm contains the palm recognition function, it can identify whether the object is in proper "palm" shape, all the objects that are not in a proper "palm" shape will be identified as non-palm object and will be refused to process to the further recognition process.

2nd Layer - Palm Print Recognition
After the 1st layer recognition, the palm shape object will go for the second recognition process, the infrared camera will recognize the palm print, as palm print is one of the unique features points of human being, and is formed by hundreds of thousands of lines, accurate replication of palm print is extremely hard to be done, and 90% of the fake palm will be identified and rejected in this stage.
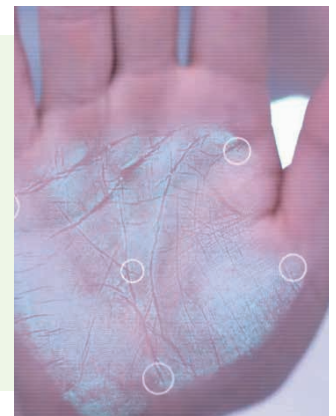
3rd Layer - Palm Vein Recognition
In this stage, the infrared camera will be activated. Under normal sunlight, palm vein cannot be imaged, but under infrared light (wavelength 700 – 900mm), the palm vein will become visible as the deoxygenated hemoglobin in the blood exhibits stronger absorption characteristics than moisture in other tissues and tissues under infrared light. Using a near-infrared light source to illuminate the palm, the venous blood in the shallow layer of the palm absorbs most of the light, while the body tissue such as the skin absorbs light less and reflects the light back. Through the imaging of the image sensor, the venous blood vessels and other tissues are imaged with a strong difference in brightness, so that the structural distribution of the vein can be clearly distinguished. Hence the complication process to get a clear image of the palm vein, and the vein image is extremely complex which is involved with millions of vessels and some of the vessels are as tiny as a hair, it is almost impossible to replicate a qualified fake palm vein model to pass the recognition process.
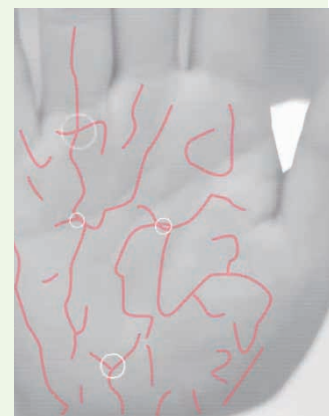
Wide Angle Tolerance

The latest palm recognition algorithm was developed by Deep Learning and Computer Vision technology, and applied CNN algorithm and was trained up with hundreds of thousands of palm images, and completely understands how palm looks like in different angles. Therefore, in this generation terminal, the angle tolerance of palm image can be extended to as wide as +/-60 degrees in roll axis and slight angle twist in both pitch and yaw axes, which is almost reached the critical point of the widest angle acceptance of palm posture.

Ultra-long Recognition Distance

With the help of the HD image sensor and HD and infrared camera technology bloom in recent years, getting a clear palm, palm print and palm vein image in the range of 20 – 50 cm is absolutely simple. With ZKTeco's biometrics processing unit, the whole recognition process can be finished in less than 0.35s, which is absolutely one of the finest in the industry.
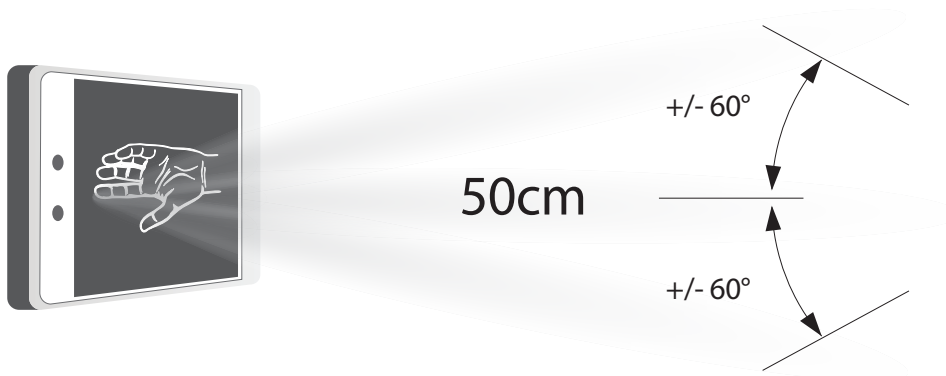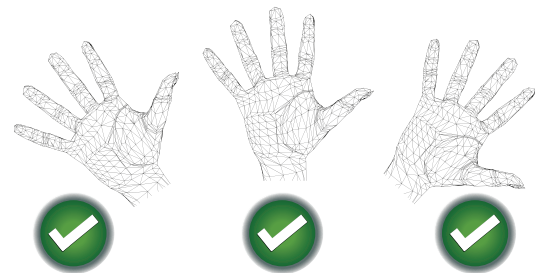
50cm of recognition distance and extra wide angle palm recognition

Green Label x Visible Light Recognition

Enhanced Visible Light Facial Recognition is the latest technology of ZKTeco, aimed to overcome shortcomings of previous facial recognition and achieve an all-rounded upgrade on whatever performance and reliability. Facial Recognition has been considered as one of the rising biometric technologies and many are optimistic about its development in the future. However, the technological incapability of facial recognition has also been exposed along with the increasing usage in our daily life, mainly in the ability of anti-spoofing, threshold of processing power, environmental restriction on light source and pose of angle.

Therefore, this is precisely what the Enhanced Visible Light Facial Recognition developed for and the key to this breakthrough would be incorporating advanced technology. Visible light recognition is adapted to fill up those three technological incapabilities as aforesaid and has been passing through a continuous training to keep enhancing its performance.

Product Introduction : What is Visible Light Facial Recognition

Enhanced Visible Light Facial Recognition is the latest technology of ZKTeco, aimed to overcome shortcomings of previous facial recognition and achieve an all-rounded upgrade on whatever performance and reliability by using advanced technology. Facial Recognition has been considered as one of the rising biometric technologies and many are optimistic about its development in the future. However, the technological incapability of facial recognition has also been exposed along with the increasing usage in our daily life, mainly in the ability of anti-spoofing, threshold of processing power, environmental restriction on light source and pose of angle.

Therefore, this is precisely what the Enhanced Visible Light Facial Recognition developed for and the key to this breakthrough would be incorporating advanced technology which is adapted to fill up those three technological incapabilities as aforesaid and has been passing through a continuous training to keep enhancing its performance.

Performance on practical applications

The Enhanced Visible Light Facial Recognition is rather an all-rounded upgraded version on previous facial recognition technology, not only qualified for general applications, it is also competent for advanced recognition task under a dynamic environment. Especially for its cutting edge anti-spoofing function, any business with high level of security needs will only find it a more reliable technology over the rest.

Product Specifications

ZKBioSecurity

G4
• Proactive Facial Recognition
• New Height of Anti-Spoofing
• Speedy Recognition
• Wide Pose Angle Acceptance
• Touchless for Better Hygiene

ZKBioSecurity Software
• All-In-One solution
• Multi-door Management Capacity
• Simple Structure and Smooth Workflow

Step through the enhanced Visible Light Facial Recognition

Input image

Face detection

Face allignment

Anti-Spoofing

Y

Live ?

N

End

Augmentation

Normalization

Data pre-processing

Training

Euclidean Distance

Angular Distance

Loss function

Anchor Pos Anchor Pos

neg   neg

Testing

Deep feature extraction

NN Classifier

Metric space

SRC

Pattern classification

Deep feature recognition
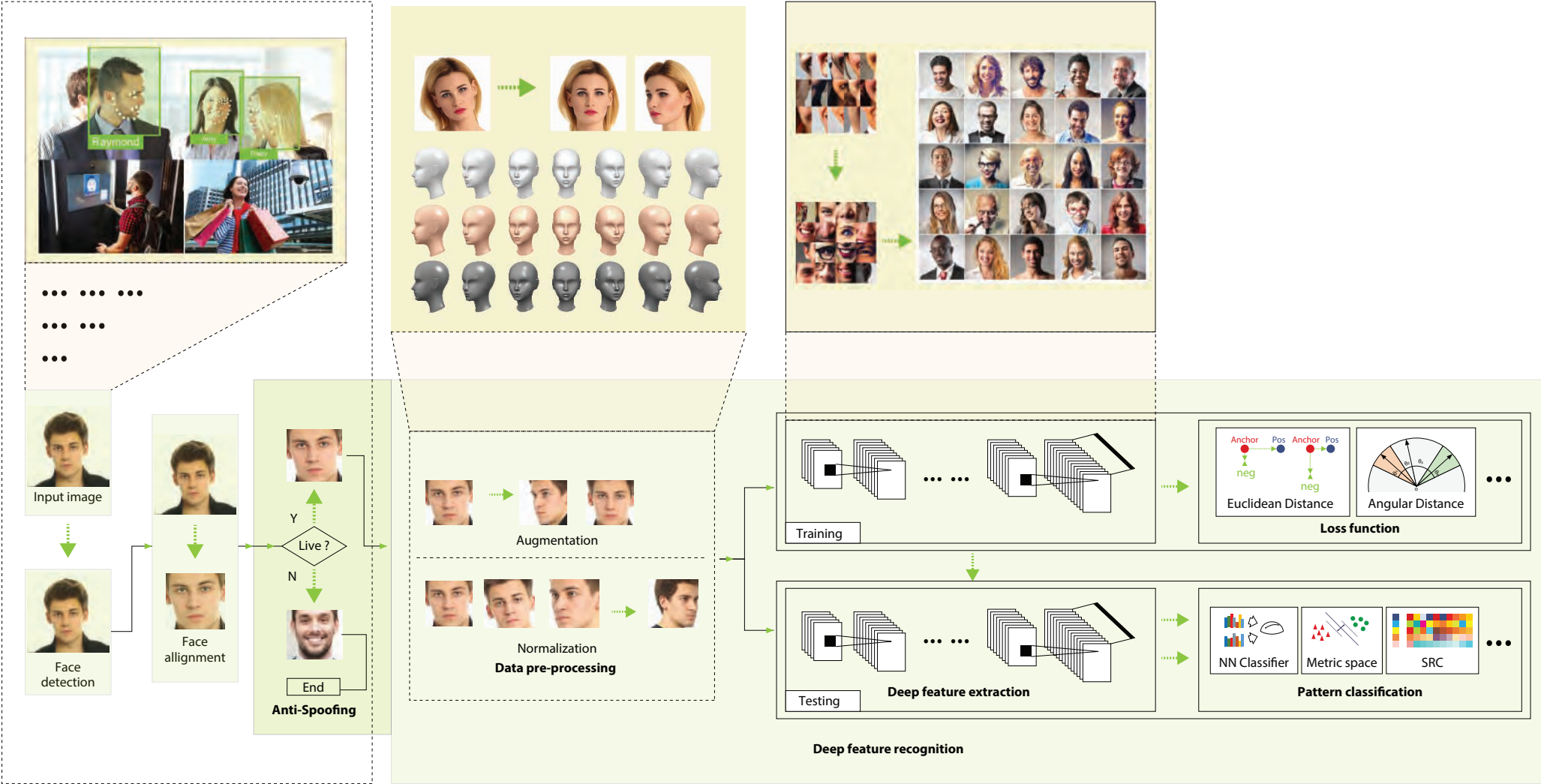
Strength and Key feature of Visible Light Recognition

Strength 1
Proactive Facial Recognition

With the applied advanced technology and algorithm, Anti-spoof function has been greatly enhanced and is able to prevent fake faces, photos and video attacks, which is benefited from the power of visible light recognition which is trained up to conduct liveness detection by learning differences as lighting, texture and resolution.

Proactive Facial Recognition
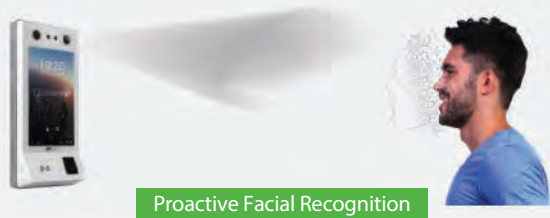
Opening doors without standing in front of the camera

With the newest visible light recognition technology, if users would like to get access to the authorized area, they are no longer required to get close to the terminal and stop by for recognition, as the system is able to automatically recognize and track faces in video.

Auto-recognizes Everyone

This cutting-edge technology can recognize multiple persons in one single fame, and greatly enhanced the recognition distance to 3 meters (no need to que up)

Strength 2
New Height of Anti-Spoofing

Visible Light Recognition is a proactive facial recognition device, users no longer need to stand steadily in front of camera. When users pass through the specific area, they are possibly recognized automatically.

Anti Fake Video Attack

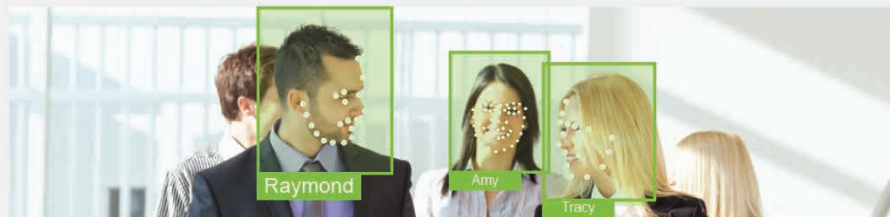Visible Light Recognition is introduced to against intruders using fake videos to access the specific area, it is trained to identify differences between living human face and human face played in a video in terms of texture and resolution, consequently video attack can also be defensed.

Enhancing Anti-spoofing Standard with Multiple Biometrics

Visible Facial recognition System supports two-factor authentication of users to enhance security level. E.g. Users are only allowed to perform fingerprint / palm print verification progress to open doors upon successful authentication by the System, thus in full aspects improving safety level and satisfying complete security standard.

Anti-Fake Photo Attack

Anti-spoofing disallows intruders to cheat the system into granting entrance to a building to an unauthorized visitor by using the fake photo, this recognition can separate real persons and photos, thus disabling intruders to access the locked area of building.
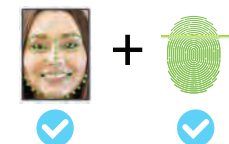
Strength 3
Speedy Recognition

The visible light facial recognition is way faster than the previous near Infraredfacial recognition, and the recognition distance has been greatly extended up to 3 meters long, which significantly improves maximum traffic rate.

Recognition Time **<0.5S**

Recognition Distance **3m**

Ultra-fast real time Less than 0.6 Second
The most advanced face recognition algorithm enabling industry-leading quick face recognition with less than a second.

High speed processing time
Due to the low processing size of the image, visible light facial recognition provides a 3 times faster processing time than the traditional IR facial recognition.

Strength 4
Wide Pose Angle Acceptance

As the visible light recognition is applied, the terminals now have true cognition of faces, which enables larger pose angle acceptance by applying 3D rendering.

Wide pose angle acceptance
Visible light recognition technology enriched the pose angle of the recognition up to 30degree in all angles such as pitch, row and yaw.

Extra wide angle recognition (+/- 30 degrees)
While most of algorithms only support 15-degree angle facial recognition, ZKBioFace supports 30-degree angle facial recognition.
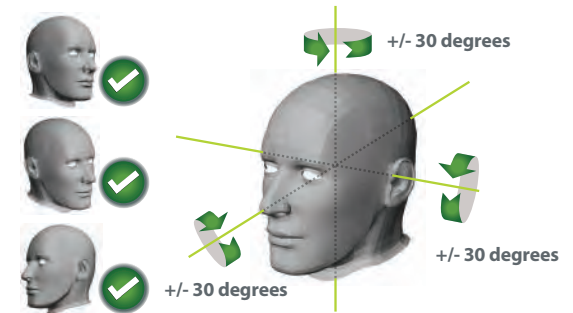
Make-up, glasses and different styling acceptance
Delighted by the advanced technology, the recognition technology now able to recognize human from the fundamental pixel level, which greatly enlarged the tolerance of make-up, glasses and styling.

+/- 30 degrees

+/- 30 degrees

+/- 30 degrees

Strength 5
Touchless for Better Hygiene

Visible light facial recognition is a touchless biometric solution, which prevents diseases spread out through dirt.

Touchless & Hygiene
In certain scenarios such as clinic, hospital, construction site, factory, etc, where have a relatively high hygiene level, a stable and reliable facial recognition technology will be needed for opening door, time attendance, opening gate. With the great convenience of this technology, staffs only need to walk straight thought and after the system matched the face and data, the door will be opened automatically.

Clinic   Hotel   Hospital   Construction

Product Introduction
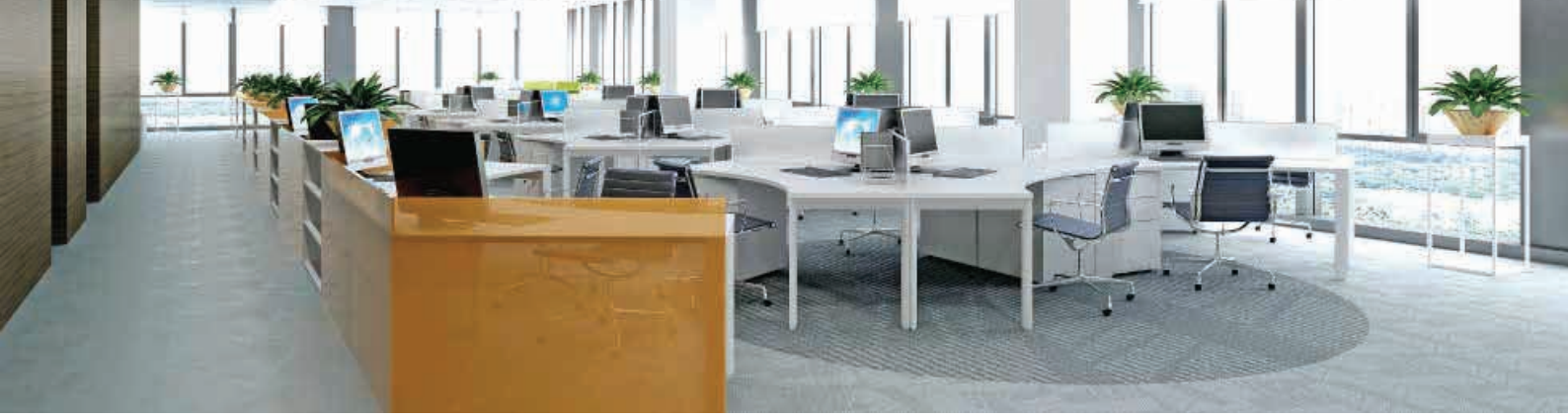
Green Label Series

Product Introduction

Green Label Series

G4
Multi-Biometric Attendance & Access Control Terminal with Enhanced Visible Light Facial Recognition

• Revolutionary SilkID FingerPrint Sensor
• Proactive Facial Recognition
• Wide Pose Angle Acceptance
• Enhanced Visible Light Facial Recognition
• New Height of Anti-Spoofing
• Touchless for Better Hygiene
• Multiple Verifications: Face/ FingerPrint/ Card/ Password
• Speedy Recognition

G3 Pro
Revolutionary 3-in-1 Contactless Palm Recognition Terminal

• Modern Design & Interactive UI
• Revolutionary SilkID Fingerprint Sensor
• Simple Management & Scalabilit
• Multiple Verification Modes: Palm/ Face / Fingerprint / Card / Password
• Outstanding Performance With Dry, Wet and Rough Fingers

G3 Plus
Anti-Glare Face & Fingerprint Time Attendance & Access Control Terminal

• Face Identification Operating under Strong Sunlight and Dark environment
• Revolutionary SilkID Fingerprint Sensor
• Simple Management & Scalabilit
• Multiple Verification Modes: Face / Fingerprint / Card / Password
• Outstanding Performance With Dry, Wet and Rough Fingers

G2
Fingerprint Time Attendance & Access Control Terminal

• Modern Design & Interactive UI
• Revolutionary SilkID Fingerprint Sensor
• Simple Management & Scalability
• Multiple Verification Modes:
• Fingerprint / Card / Password
• Outstanding Performance With Dry, Wet and Rough Fingers

Product Introduction

Green Label Series

Elite Pass
**Robust Facial Recognition Terminal
Delegated for Entrance Barrier with
Ultra-large Capacity and Anti-corrosive Coatings**

• Proactive Facial Recognition

• Speedy Recognition and wide Pose Angle Acceptance

• Enhanced Visible Light Facial Recognition

• New Height of Anti-Spoofing and Touchless for Better Hygiene

• Multiple Verifications: Face/ Card/ Password

• IP68 waterproof and IK04 impact protection rating design

Elite Access
**Robust Facial Recognition Terminal with
Ultra-large Capacity and Anti-corrosive Coatings**

• Proactive Facial Recognition

• Speedy Recognition and wide Pose Angle Acceptance

• Enhanced Visible Light Facial Recognition

• New Height of Anti-Spoofing and Touchless for Better Hygiene

• Multiple Verifications: Face/ Card/ Password

• IP68 waterproof and IK04 impact protection rating design

ProFace X
Outdoor & Vandal Resistant Facial Recognition Terminal

• Proactive Facial Recognition

• Speedy Recognition and wide Pose Angle Acceptance

• Enhanced Visible Light Facial Recognition

• New Height of Anti-Spoofing and Touchless for Better Hygiene

• Multiple Verifications: Face/ Card/ Password

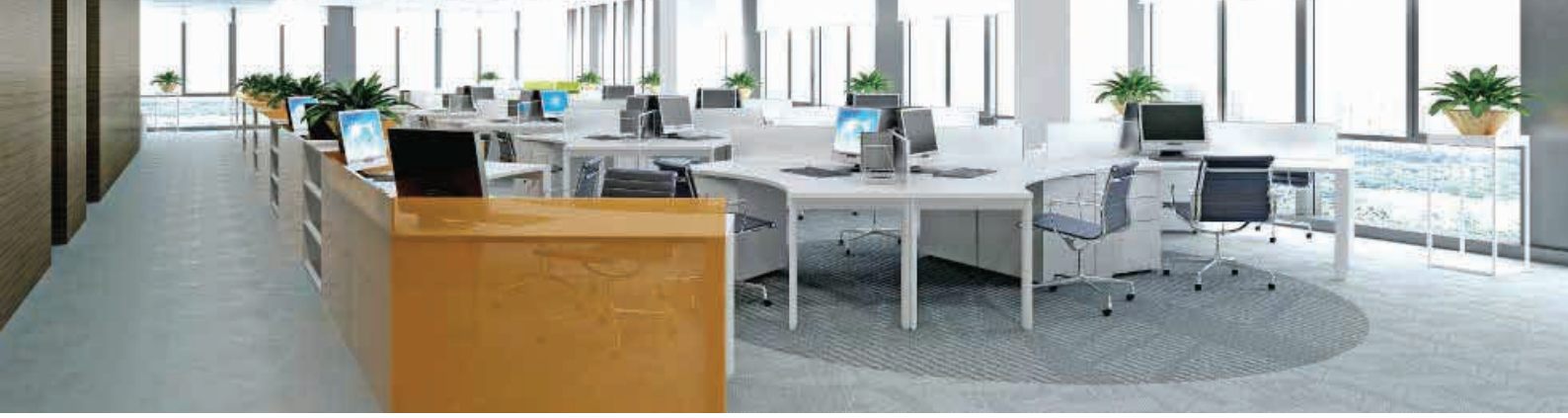• IP68 waterproof and IK04 impact protection rating design

Green Label

Product Introduction

Green Label Series

EC10
Elevator Control Panel
• Secure, Scalable And Versatile
• Elevator Controls And Expansion Boards

InBio Pro Series
IP-Based Biometric Access Control Panel
• Truly Internal Biometric Identification
• Advanced Access Control Built-In
• More than Door Control, Can Be Functioned As Lights, Alarms And
  Intrusion Detection Panels

ProID Series
Physical Access Readers
• LED light and touch keypad.
• On-site adjustable Wiegand output (26 or 34 bits).
• Waterproof design suitable for indoor or outdoor applications.
• Black or white color available.

ProID10   ProID20   ProID30   ProID40

ProBio
Multi-Biometric Access Control Terminal
• Revolutionary SilkID Fingerprint Sensor
• Multiple Verification Modes:
  Face / Fingerprint / Card / Password
• Outstanding Performance With Dry, Wet And
  Rough Fingers

Inpulse+
Finger Vein Standalone Access Control Terminal
• Modern Design And Interactive UI
• High Security Finger Vein Recognition
• Multiple Verification Modes: Finger Vein / Card / Password
• TFT-LCD Color Touch Screen
• Simple Management And Scalability

Green Label Hardware Selection Guide

V5.0, 2020-02-20

ZKTeco has an extensive Time Attendance & Access Control hardware and software products range. This selection table assists you to compare all Green Label products against different requirements. Once you have any further questions, please email us at GL@zkteco.com for detailed discussions.

- ✓ = Available
- ✗ = Not available
- ● = Optional
- A = Available Upon Customization

MODEL / FEATURE	Fingerprint	Face	Finger Vein	3-in-1 Palm	Card: ID	MIFARE	MIFARE DESFire	HID Prox.	HID iCLASS	LEGIC	ZK Encryption Card	Password
TIME ATTENDANCE												
G1	✓	✗	✗	✗	✓	●	A	A	A	A	A	✓
G2	✓	✗	✗	✗	✓	●	A	A	A	A	A	✓
G3	✓	✓	✗	✗	✓	●	A	A	A	A	A	✓
G4	✓	✓	✗	✗	✓	●	A	A	A	A	A	✓
G3 Pro	✓	✓	✗	✓	✓	●	A	●	A	A	A	✓
ACCESS CONTROL												
inPulse+	✓	✗	✓	✗	✓	●	A	A	A	A	●	✓
inPulse	✗	✗	✓	✗	✓	●	A	A	A	A	●	✓
ProBIO	✓	✓	✗	✗	●	●	A	A	A	A	●	✓
ProFAC	✗	✓	✗	✓	●	●	A	A	A	A	●	✓
ProCapture-T	✓	✗	✗	✓	●	●	A	A	A	A	●	✓
ProCapture-WP	✓	✗	✗	✗	●	●	A	A	A	A	●	✓
ProCapture-X	✓	✗	✗	✗	●	●	A	A	A	A	●	✓
ProRF-T	✗	✗	✗	✗	●	●	A	A	A	A	●	✓
ProRF	✗	✗	✗	✗	✓	●	A	●	A	A	A	✗
ProFace X	✗	✓	✗	✗	✓	●	A	A	A	A	A	✓
Elite Access	✗	✓	✗	✗	●	●	A	A	A	A	A	✓
Elite Pass	✗	✓	✗	✗	●	●	A	A	A	A	A	✓
ACCESS CONTROL PANEL												
inBio160/260/460 Pro	✓ Wiegand/RS485	● Wiegand	● Wiegand	● Wiegand	✓ Wiegand/RS485	● Wiegand/RS485	● Wiegand/RS485	● Wiegand	● Wiegand	● Wiegand	● Wiegand/RS485	✓ Wiegand/RS485
READER												
ProID10	✗	✗	✗	✗	✓	✓	✓	✗	✗	A	A	✗
ProID20	✗	✗	✗	✗	✓	✓	✓	✗	✗	A	A	✗
ProID30	✗	✗	✗	✗	✓	✓	✓	✗	✗	A	A	✓
ProID40	✗	✗	✗	✗	✓	✓	✓	✗	✗	A	A	✗

MODEL / FEATURE	SCREEN		COMMUNICATION										FUNCTIONALITY						Suggested Software
	Color Screen	Capacitive Touch Screen	TCP/IP	WiFi	3G	GPRS	USB Host	RS485 for Reader	Wiegand In	Wiegand Out	AUX. Input	AUX. output	Time Attendance	Battery	Door Access	POE	IP Rating	IK Rating	
TIME ATTENDANCE																			
G1	✓	✗	✓	●	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	BioTime8.0 WDMS
G2	✓	✗	✓	●	●	●	✓	A	✓	✓	✗	✗	✓	✗	✓	✗	✗	✗	BioTime8.0 WDMS
G3	✓	✓	✓	●	●	●	✓	A	✗	✓	✗	✗	✓	●	✓	✗	✗	✗	BioTime8.0 ZKBioSecurity WDMS
G4	✓	✓	✓	✓	✗	✗	✓	✗	✓	✓	✗	✗	✓	✗	✓	✓	✗	✗	BioTime8.0 ZKBioSecurity
G3 Pro	✓	✓	✓	●	●	✗	✓	A	✗	✓	✗	✗	✓	●	✓	●	✗	✗	BioTime8.0 ZKBioSecurity WDMS
ACCESS CONTROL																			
inPulse+	✓	✓	✓	✗	✗	✗	✓	✗	✓	✓	1	1	●	✗	✓	✗	✗	✗	ZKBioSecurity
inPulse	✓	✓	✓	✗	✗	✗	✓	✗	✓	✓	1	1	●	✗	✓	✗	✗	✗	ZKBioSecurity
ProBIO	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	1	1	●	✗	✓	✗	✗	✗	ZKBioSecurity
ProFAC	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	1	1	●	✗	✓	✗	✗	✗	ZKBioSecurity
ProCapture-T	✓	✗	✓	✗	✗	✗	✓	✓	✓	✓	1	1	●	✗	✓	✗	✗	✗	ZKBioSecurity
ProCapture-X	✓	✗	✓	●	✗	✗	✓	✓	✓	✓	1	1	●	✗	✓	✗	✗	✗	ZKBioSecurity
ProCapture-WP	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	1	1	●	✗	✓	✗	IP65	✗	ZKBioSecurity
ProRF-T	✓	✗	✓	✗	✗	✗	✓	✓	✓	✓	1	1	●	✗	✓	✗	✗	✗	ZKBioSecurity
ProRF	✗	✗	✓	A	✗	✗	✗	✓	✓	✓	1	1	A	✗	✓	✗	IP67	✗	ZKBioSecurity
ProFace X	✓	✓	✓	●	✗	✗	✓	✓	✓	✓	1	1	●	✗	✓	✗	IP68	IK04	ZKBioSecurity
Elite Access	✓	✓	✓	●	✗	✗	✗	✓	✓	✓	1	1	●	✗	✓	✗	IP68	IK04	ZKBioSecurity
Elite Pass	✓	✓	✓	●	✗	✗	✓	✓	✓	✓	1	1	●	✗	✗	✗	IP68	IK04	ZKBioSecurity
ACCESS CONTROL PANEL																			
inBio160/260/460 Pro	✗	✗	✓	✗	✗	✗	✗	✓	✓	✗	inBio160 Pro: 2 inBio260 Pro: 4 inBio460 Pro: 4	inBio160 Pro: 1 inBio260 Pro: 2 inBio460 Pro: 4	✗	✗	✓	✗	✗	✗	ZKBioSecurity
READER																			
ProID10	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗		✗	✗	✗	✗	✗	✗	
ProID20	✗	✗	✗	✗	✗	✗	✗	●	✗	✓	✗		✗	✗	✗	✗	✗	✗	
ProID30	✗	✗	✗	✗	✗	✗	✗	●	✗	✓	✗		✗	✗	✗	✗	✗	✗	
ProID40	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗		✗	✗	✗	✗	✗	✗	

Green Label
Software Selection Guide

ZKTeco offers variety of softwares to suit the different business needs, and different requirements. We believe a clear function comparsion guide would be a good helper of all of our customers. So, here is the software selection guide to help you sorting out the similarities and differences among all ZKTeco Softwares.

✓ = Available | ✕ = Not available | ● = Optional | A = Available Upon Customization

Version / FEATURE	FUNCTIONALITY		Report	Export Format	Web-based Application	Database Engine	COMPATIBILITY			Language
	Time Attendance	Door Access					Hardware	Browser	OS	
TIME ATTENDANCE APPLICATION										
BioTime 8.0	✓ Advanced	● Simple	Schedule log, Daily attendance, Total time card, Attendance summary, Leave summary, First in last out, Exception, Department summary, Time card, Late, Early leave, Overtime, Absent, Multiple tranction, Break time	XLXS, PDF, CSV, TXT	✓	PostgreSQL, MySQL, MS SQL Server, Oracle	G1, G2, G3, G3 Plus, G3 Pro, G4, G4L	Internet Explorer 11+, Firefox 27+, Chrome 33+	Windows 7/8/8.1/10, Windows Server 2003/2008/2012/2014/2016 (64 bits)	English, Spanish (Columbian) Chinese (Simplified), Chinese (Traditional), Russian, Ukraine, Indonesian, Thai, Vietnamese, Korean, Arabic, France, Persian, Hebrew
ACCESS CONTROL APPLICATION										
ZKBioSecurity	✓ Advanced	✓ Advanced	**Access**: Transactions, Events from Today, Last Known Position, All Exception Events, By Door, By Personnel **Elevator**: Transactions, Exception Events, By Floor, By Personnel. **Visitor**: Last Visited Location, Visitor History Record. **Patrol**: All transactions, Patrol Records Today, Patrol Route Statics, Patrol Personnel Statistic **Parking**: Vehicle Inside, Entry Record, Exit Record, Change Record, Expired Vehicle, Incoming Unusual Vehicles, Fixed Vehicle Authorization Record, Device Operation Record, Handover Statistics, Monthly Income Statistics **FaceKiosk**: Verification Record **Face Intellect**: All Transaction **Video**: Recognition Alarm, Video Alarm, Video Operation, Video Event, Face Recognition Record, Face Template Distribute Record	Excel, PDF, CSV	✓	PostgreSQL, Oracle11g, SQL Server 2005/ 2008/ 2012	InPulse+, ProBio, ProFAC, ProCapture-T, ProCaptureX, ProCapture-WP, ProRF-T, Elite Pass, Elite Access, ProFace X	Internet Explorer 11+, Firefox 27+, Chrome 33+	Windows 7/8/8.1, Windows Server 2008/ 2012 (both 32 bits, 64 bits)	English, Spanish, Chinese (Simplified), Chinese (Traditional), Russian, Indonesian, Thai, Vietnamese, Korean

ZKTeco