



timeTec

Cloud City
Smart City Ecosystem

www.timetec.ai

**PRODUCT & SOLUTION
CATALOGUE**

2026/2027



timeteccloud



timeteccloud



info@timeteccloud.com

This Product & Solution Catalogue is intended as a reliable reference for smart residential, commercial, and mixed development projects. It presents only the core range of our offerings. For comprehensive product details or project discussions, developers, architects, M&E consultants, and government agencies are invited to contact us at smartcity_project@timeteccloud.com.

The Company

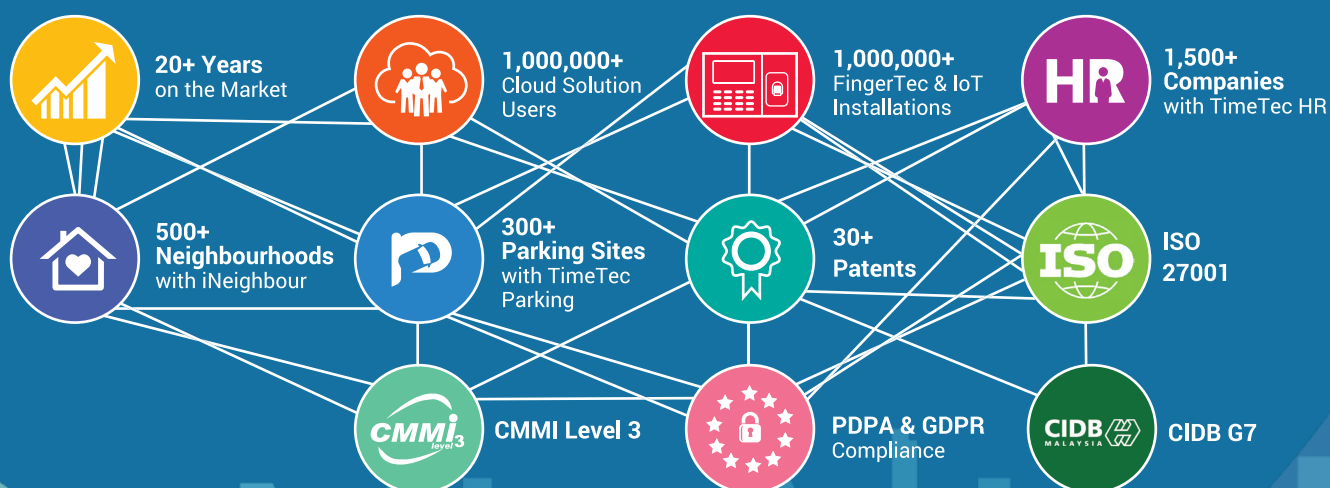
Nurturing the Future

Our vision is to be the leading catalyst for transformative change in the smart building ecosystem, pioneering innovations that empower individuals and organizations to thrive in interconnected smart cities.

Our mission is to revolutionize efficiency and productivity by delivering cutting-edge solutions in Workforce Management, Property Management, Smart Parking, Security, and People Flow—enabling individuals and organizations to excel in the digital era.

FACTSHEET

Digitalize with the Leading Solutions



FOREWORD

By **TEH HON SENG**, Chief Executive Officer, TimeTec Group

It is with great pride and excitement that I present to you the TimeTec Smart City Ecosystem Product & Solution Catalogue. This catalogue, spanning over 200 pages, is more than a compilation of products, it is a reflection of our vision, our innovation, and our unwavering belief that cities of the future must be smarter, more connected, and more sustainable.

The world is urbanizing at an unprecedented pace. With every passing year, we see greater demands on infrastructure, mobility, housing, and community living. At TimeTec, we believe that technology is not just an enabler, it is the very foundation upon which modern cities will thrive. Our mission has always been to transform complex urban challenges into simple, seamless solutions, empowering governments, developers, businesses, and citizens alike.

The TimeTec Smart City Ecosystem represents years of continuous innovation across multiple domains—smart parking, building management, workforce and talent solutions, community systems, automation, security, commerce, and beyond. Each solution has been thoughtfully designed, not as a standalone silo, but as an integrated component of a larger ecosystem that works in harmony. This is what truly sets TimeTec apart: the ability to unify disparate systems into a single intelligent platform that delivers real value and lasting impact.

This catalogue is not only a showcase of products, it is a roadmap to the future. Within these pages, you will find solutions that reduce operational costs, improve sustainability, harness the power of data and AI, and enhance the daily experiences of people who live and work in our communities. Most importantly, you will see our commitment to perpetual innovation, the belief that technology must continually evolve to stay ahead of tomorrow's needs.

As you explore this catalogue, I invite you to imagine the possibilities it unlocks. Whether you are a city planner envisioning a new township, a developer designing a modern community, or an enterprise seeking smarter operations, the TimeTec Smart City Ecosystem is here to accelerate your transformation journey. Together, let us shape cities that are not only smart, but also human-centered, resilient, and future-ready.

Thank you for being part of this journey with us. The future is not a distant horizon, it begins here.



Chief Executive Officer
TimeTec Group



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The essence of a Smart City is defined not only by how advanced its ICT infrastructure is, but, more importantly, by the hundreds of thousands of connected digital buildings and the billions of interconnected activities that take place daily through the interactions of millions of people who live, work, and breathe in the city, embracing the digital lifestyle.

Property Listing

VP & Defect Management

ense
e
ognition

em

Appraisal

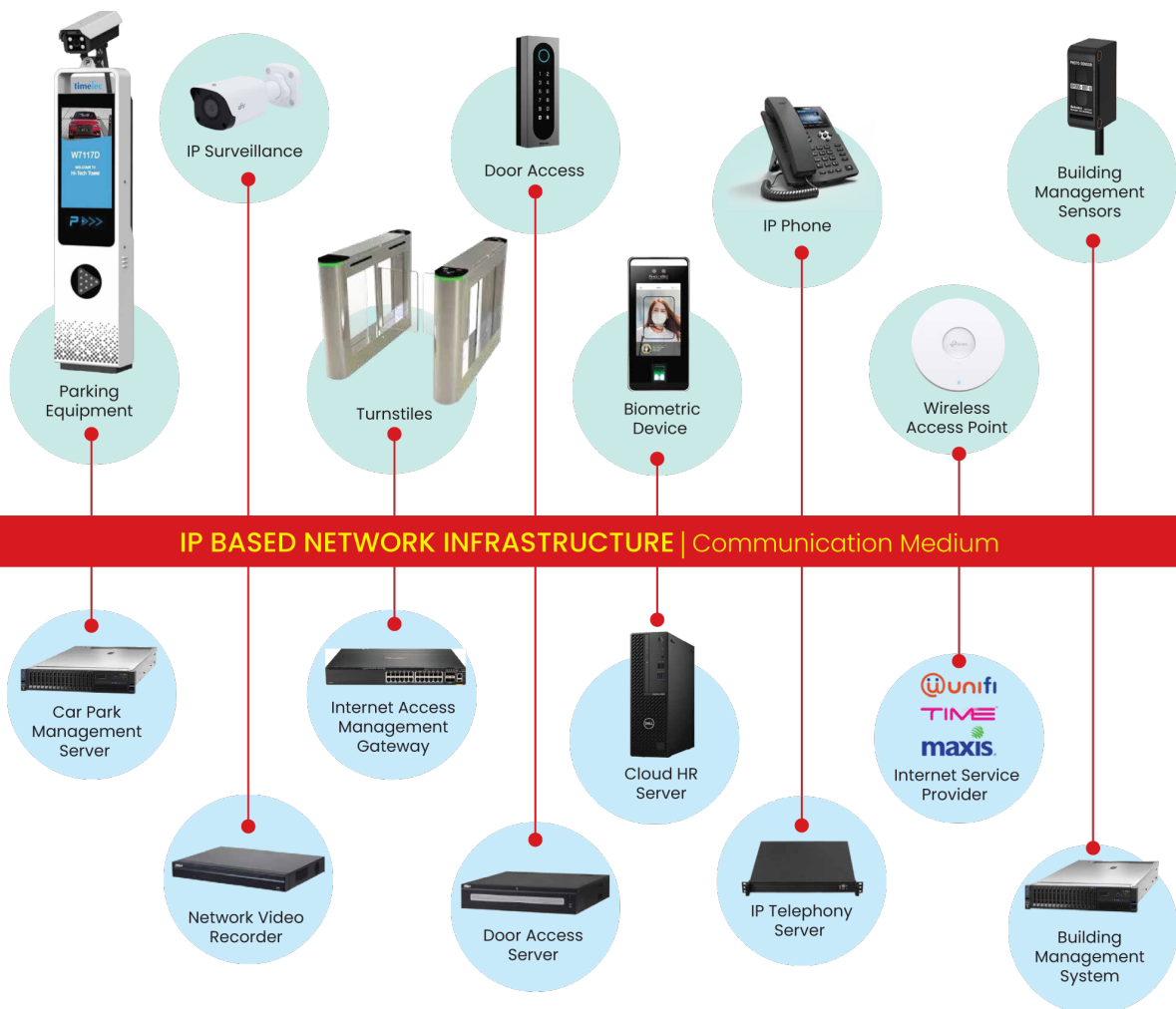
CONNECTIVITY

Driven by Hardware

Network infrastructure, ELV & IoT (Digital Foundation)

Pre-Smart Township (Construction)

Front End/ User Equipment



Back End/ Management Equipment

ENGAGEMENT

Driven by Software

Cloud Applications & Apps (Digital Ecosystem)

Smart Township (Operation)

Tenant Management
TimeTec Building •



Property Accounting
i-Account •



**Tenant Access
Visitor Management**
i-Vizit •



Guard Patrol
TimeTec Patrol •



Near Field Commerce
i-Ad •
i-Merchants •
Loyalty Point •
Reward System •



Tenant

Automation

Security

Commerce



Parking Management
• TimeTec Parking



Facility Maintenance
• TimeTec Maintenance



IoT Smart Device
• i-TimeTec



Access Control
• TimeTec Access
• Door, Turnstile, Lift

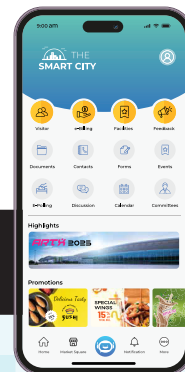


Surveillance System
• TimeTec Epicamera



Physical Ad
• Lift, Lobby, Barrier

WORKFORCE MANAGEMENT
Time Attendance, Leave, Claim, Payroll



DIGITAL LIFESTYLE Driven by Data

Data Analytics, Agentic AI (Business Transformation)

Post-Smart Township (Sustainability)

Know the Buildings



Know the People



Know the Activities



Digital Transformation (Operational)

Single System → Ecosystem (Super App)

- Automation
- Interaction

AI Transformation (Create Value)

Data Driven → AI Driven (Data-in-action)

- Increase productivity
- Better experience



Business Transformation (New Businesses)

Reduce cost → Improve Revenue (Agile + AI Driven)

- Monetization
- New business

(home service, community group buy etc)



Pre-Smart Township

(Construction)

Driven by Hardware

A smart township starts with a strong foundation—and that means a future-ready network. By building high-speed connectivity and scalable infrastructure from day one, developers avoid costly retrofits and deliver a township ready for every smart application.

Pair that with well-chosen ELV and IoT systems—security, access, parking, energy, and more—and you get buildings that work in harmony from the moment the keys are handed over. The result? Costs justification, faster completion, and a township that sells itself.

Network Infrastructure

TimeTec offers complete Network Infrastructure solutions alongside our comprehensive PropTech ecosystem, delivering seamless connectivity to support smart building operations. From structured cabling to high-performance network equipment, our infrastructure services are designed to integrate flawlessly with TimeTec's PropTech solutions—including smart access and elevator control, ELV & IoT automation, smart cashless and touchless parking, visitor management and other systems, to ensure a reliable, scalable, and future-ready environment for modern commercial and residential buildings.

Key Components

Network infrastructure is typically divided into two main categories: Physical and Logical components.

Physical Components

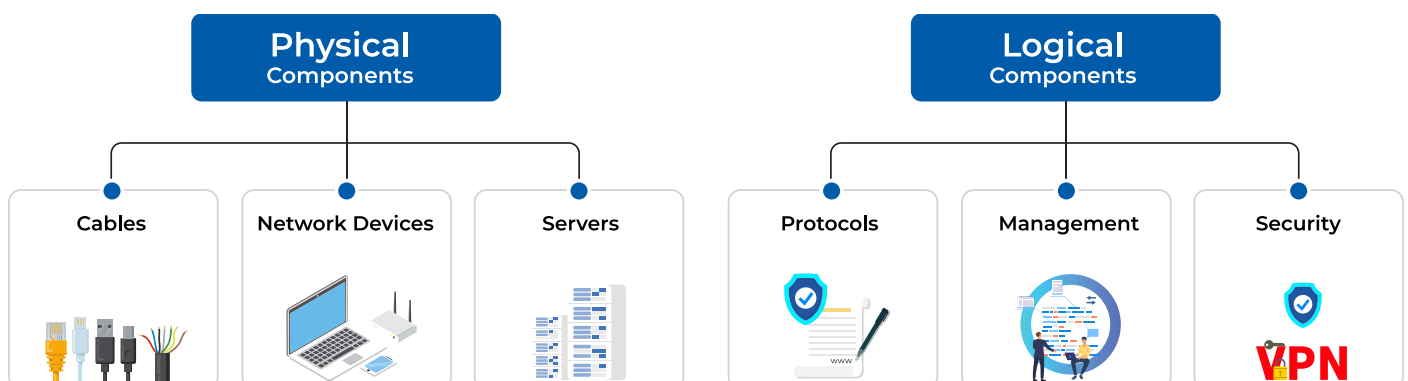
These are the tangible elements that form the foundation of a network:

1. **Cabling:** Connects network devices and facilitates data transmission. Common types include Ethernet, fiber-optic, and coaxial cables.
2. **Network Devices:** These include routers, switches, and firewalls that direct data traffic, enforce security, and connect various network segments.
3. **Servers:** Dedicated machines that provide critical services such as data storage, email, web hosting, databases, and enterprise applications.

Logical Components

These elements define how data flows and how the network is managed and secured:

1. **Protocols:** Rules that govern communication between devices on a network. Examples include TCP/IP, HTTP, FTP, and DNS.
2. **Management Systems:** Tools and software that monitor, configure, and optimize network performance and resource allocation.
3. **Security Measures:** Strategies and technologies such as firewalls, VPNs, access controls, and segmentation to safeguard network data and prevent unauthorized access or cyber threats.



TimeTec: Scope of Capabilities

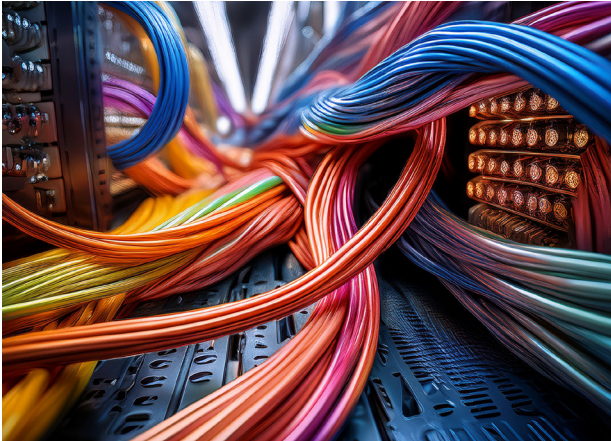
As a total solution provider and system developer, TimeTec provides the following network infrastructure design and beyond for commercial and residential properties.

1. Requirement Analysis

Start by understanding:

- Building layout: Floors, room types, server room location
- User profile: No. of users, tenants, departments
- Applications: VoIP, CCTV, Wi-Fi, access control, BMS, visitor systems, cloud apps
- Performance: Bandwidth, latency, and uptime needs
- Regulations: Local cabling/fire codes, cybersecurity, telecom standards

2. Components of Network Design



A. Structured Cabling System

- Backbone cabling: Fiber between server room (MDF) and floor switches (IDFs)
- Horizontal cabling: Cat6A or higher from IDFs to wall outlets
- Patch panels: in racks for organized connectivity
- Cable trays: and conduits to separate power and data

B. Network Hardware

- Core switch: High-performance L3 switch with redundancy
- Access switches: POE-enabled L2 switches on each floor
- Routers & Firewalls: To connect to ISP and manage security (e.g., Fortinet, Cisco ASA)
- Access Points (APs): Wi-Fi 6 or higher, based on density and layout
- UPS: For power backup in server and telecom rooms

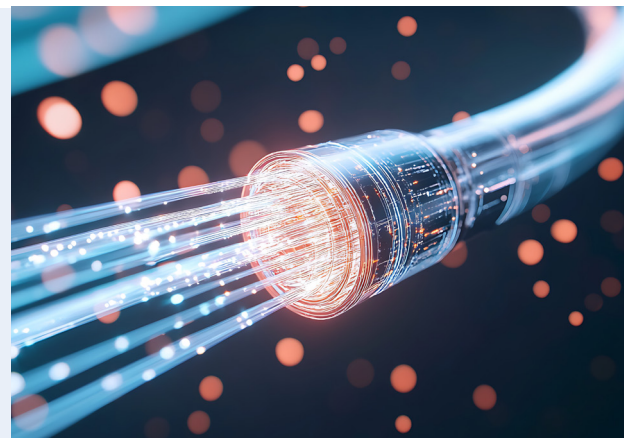


C. Server Room / Data Center

- Environmental control: Cooling, fire suppression
- Security: Card access, CCTV
- Racks: With proper grounding and labeling
- Redundant power: Dual PDU, generator-ready

D. WAN & ISP

- Fiber connection with SLA from at least 2 ISPs (redundancy)
- Consider SD-WAN for multiple sites or cloud traffic optimization



3. Network Segmentation

- VLANs for different functions: Office LAN, Guest Wi-Fi, IoT (CCTV, Access control), Voice
- QoS policies to prioritize voice/video traffic
- ACLs/firewall rules to control inter-VLAN access

4. Wireless Network Planning

- Site survey to determine AP placement
- Controller-based or cloud-managed system (e.g., Cisco Meraki, Aruba, UniFi)
- Separate SSIDs for Guest, Staff, and IoT
- Enable roaming and mesh where needed

5. Security Considerations

- Firewall with DPI & threat protection
- Network Access Control (NAC)
- 802.1X authentication for wired/wireless
- CCTV network isolation
- Backup policies and RTO/RPO planning

6. Redundancy & Scalability

- Dual-core switches (stacked or ring topology)
- Redundant uplinks (fiber with LACP)
- Cloud integration readiness (VPN, Azure/AWS, SaaS)
- Allow growth (20–30% headroom in port count, bandwidth, and rack space)

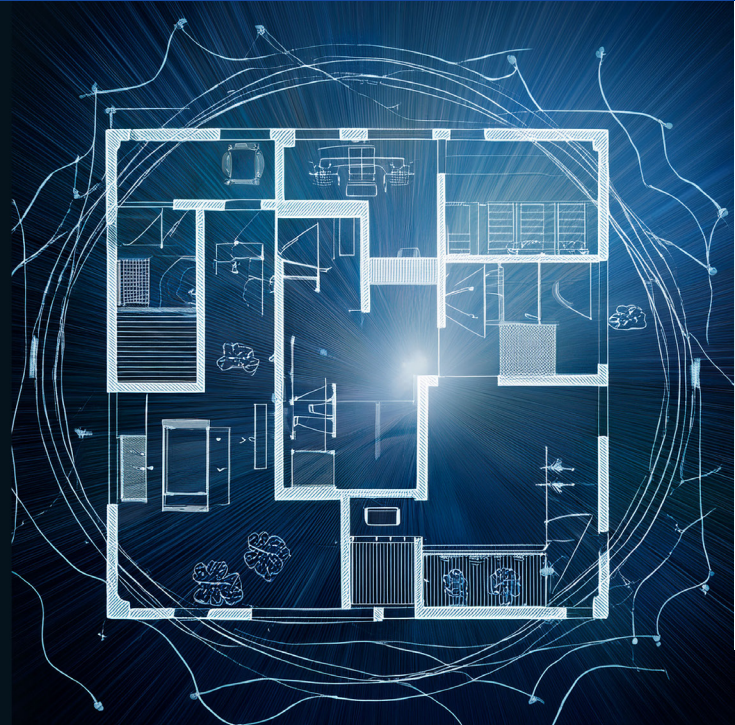


7. Monitoring & Management

- Use NMS tools (e.g., PRTG, SolarWinds, Zabbix) to monitor uptime and traffic
- SNMP enabled on all devices
- Remote access via VPN
- Log server for audit trail and diagnostics

8. Documentation

- Floor plans with network drops labeled
- IP addressing scheme
- VLAN mapping
- Hardware inventory list
- Standard Operating Procedures (SOPs)

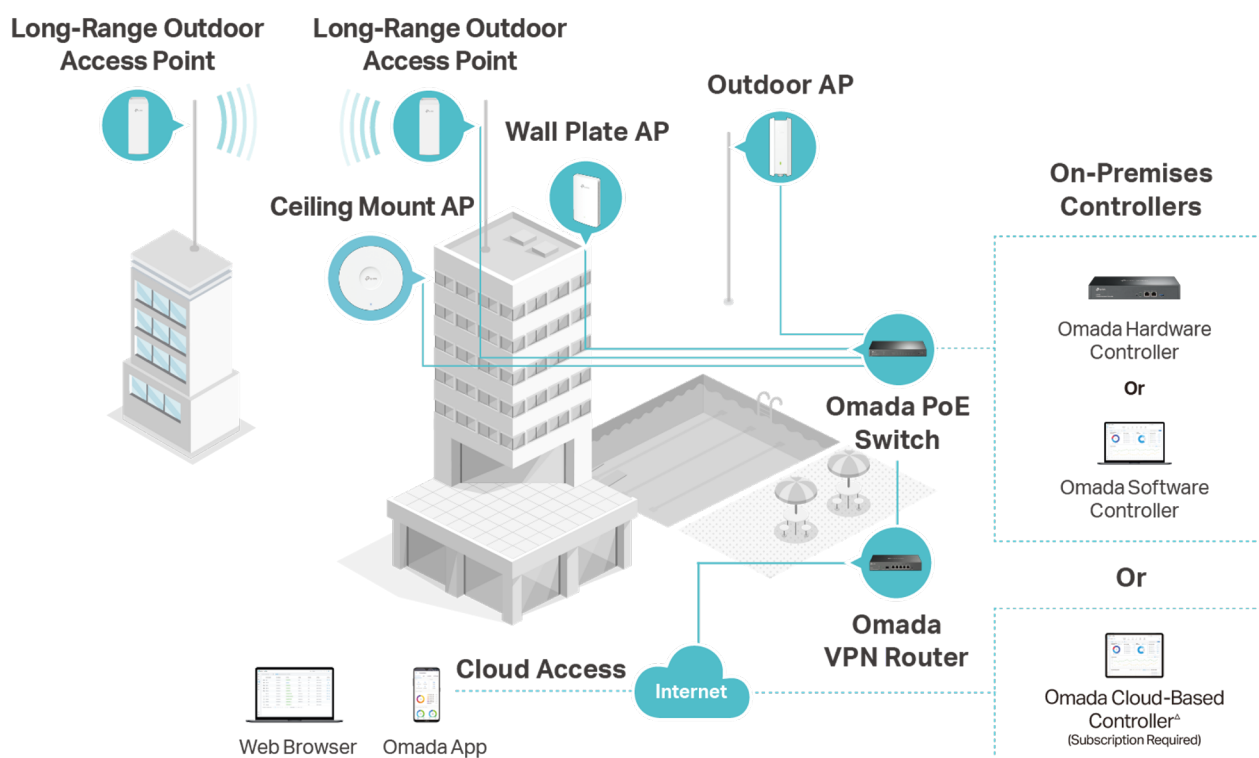


9. Testing & Commissioning

- Certify cables (Fluke testing)
- Test each drop point
- Simulate user traffic, failover tests
- Sign-off documentation and training for facility management

Key Hardware Specifications

TP-Link Omada provides one-stop access to high-quality services and high-performance products for small and medium-sized businesses, integrating complete network devices such as access points, switches, and gateways. It's ideal for use in offices, hotels, schools, restaurants, and more.





Omada Centralized Management Platform
Controller + Management Interface



Software
Defined Networking (SDN)



Centralized Multi
Site Cloud Management



Cloud Subscription Options
Essentials (Free) and Standard (License Fee)



Flexible Controller Options
Cloud-Based, and On-Premises Hardware
and Software Controller



99.9% SLA Availability*

The World's **FIRST** Vendor

to Release Full Home & Enterprise Wi-Fi 7 Products

Wi-Fi 7

What Wi-Fi 7 Brings



4.8× Faster

Extremely high throughput up to 46 Gbps

Wi-Fi 7 (802.11be) 46 Gbps

Wi-Fi 6 (802.11ax) 9.6 Gbps

Wi-Fi 5 (802.11ac) 6.9 Gbps



100× Lower Latency*

Worst Case Latency is 100× better compared to Wi-Fi 6 with 15× better AR/VR performance.



5× Network Capacity*

With 320 MHz and MLO (Multi-Link Operation), Wi-Fi 7 provides up to 5× greater capacity than Wi-Fi 6.

*Data is from semiconductor companies. Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput and wireless coverage are not guaranteed and will vary as a result of network conditions, client limitations, and environmental factors, including building materials, obstacles, volume and density of traffic, and client location.



Break Through the Boundaries of Your Business

EAP783

BE22000 Ceiling Mount Tri-Band Wi-Fi 7 Access Point



Tri-Band Wi-Fi 6 Speeds up to 22 Gbps*



Two 10G Ports



EAP773

BE11000 Ceiling Mount Tri-Band Wi-Fi 7 Access Point



Tri-Band Wi-Fi 7 Speeds up to 22 Gbps*



One 10G Port



Flexible DC/PoE Power Supply



Centralized Management



Auto Channel Selection and Power Adjustment



Bluetooth



Omada Mesh and Seamless Roaming

*Due to regulatory limits on spectrum, the 5 GHz band of the EU version product cannot have 240 MHz bandwidth, hence the theoretical speeds of the EU version in the 5 GHz band is ~67% of the corresponding US version.

tp-link | Omada Centralized Management

Future-Proof Multi-Gigabit Network Solution

Omada 10GbE Gateways, 10GbE & 2.5GbE Switches and Business Wi-Fi Solution



Full Lightning-Fast 25G/10G/2.5G Connections



10G Gateway



25G/10G L3 Switch

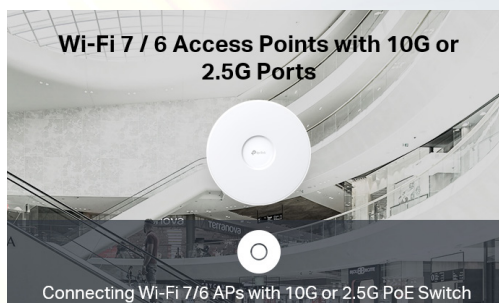


Full 10G Fiber Switch



PoE Switch with 10G Uplink

Connecting PoE Devices, Hassle-Free



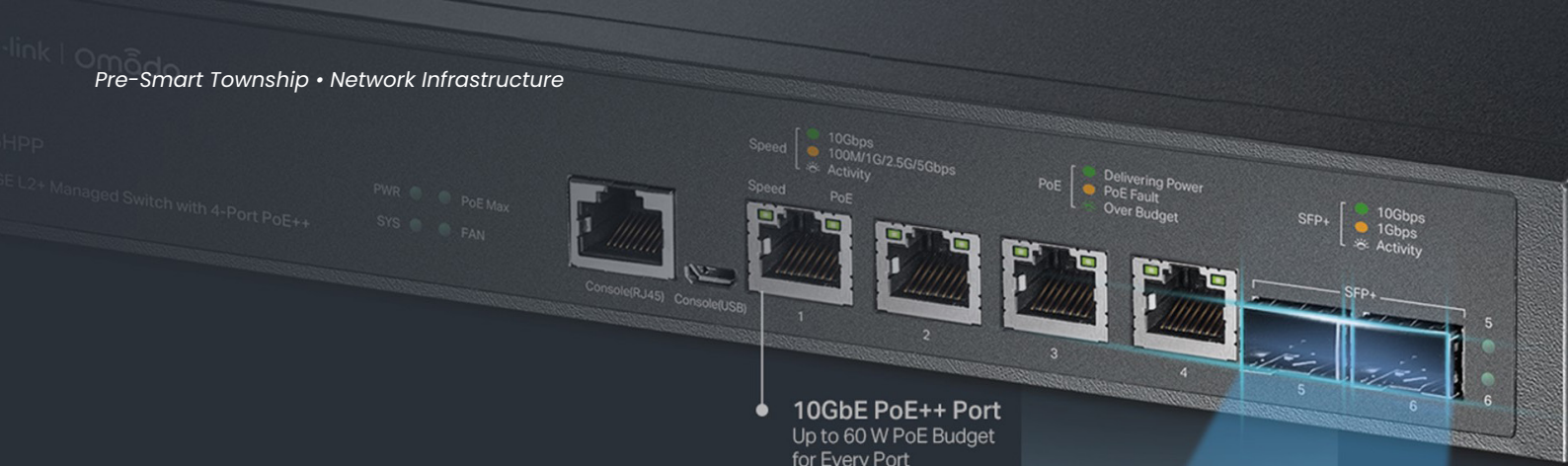
Wi-Fi 7 / 6 Access Points with 10G or 2.5G Ports

Connecting Wi-Fi 7/6 APs with 10G or 2.5G PoE Switch



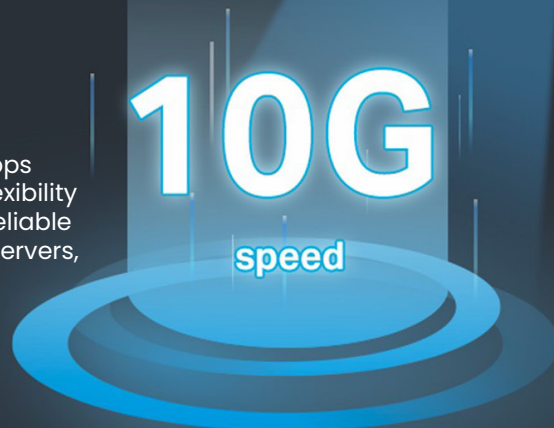
Switch with 10G Uplink

Lightning-Fast Wired Connections



25G/10G/2.5G Multi-Gigabit Managed Switches

Omada's multi-gigabit managed switches are equipped with 25 Gbps fiber, 10 Gbps fiber, 10 Gbps copper, or 2.5 Gbps copper ports. This flexibility provides maximum performance and low latency. Easily establish reliable and lightning-fast connections to Wi-Fi 7/6 access points, storage servers, and other switches and devices.



Multi-Gigabit Unmanaged Switches Open Up New Possibilities

Omada's unmanaged switches with 10GbE or 2.5GbE provide more agility for high-speed connections. They are ideal for small and home offices, gaming set-ups, LAN parties, and home entertainment. Their plug and play design makes setting up a breeze.



DS1008X

Omada 8-Port 10G Multi-Gigabit Desktop/Rackmount Switch



DS105X

Omada 5-Port 10G Multi-Gigabit Desktop Switch

DS108G-M2

Omada 8-Port 2.5G Multi-Gigabit Desktop Switch

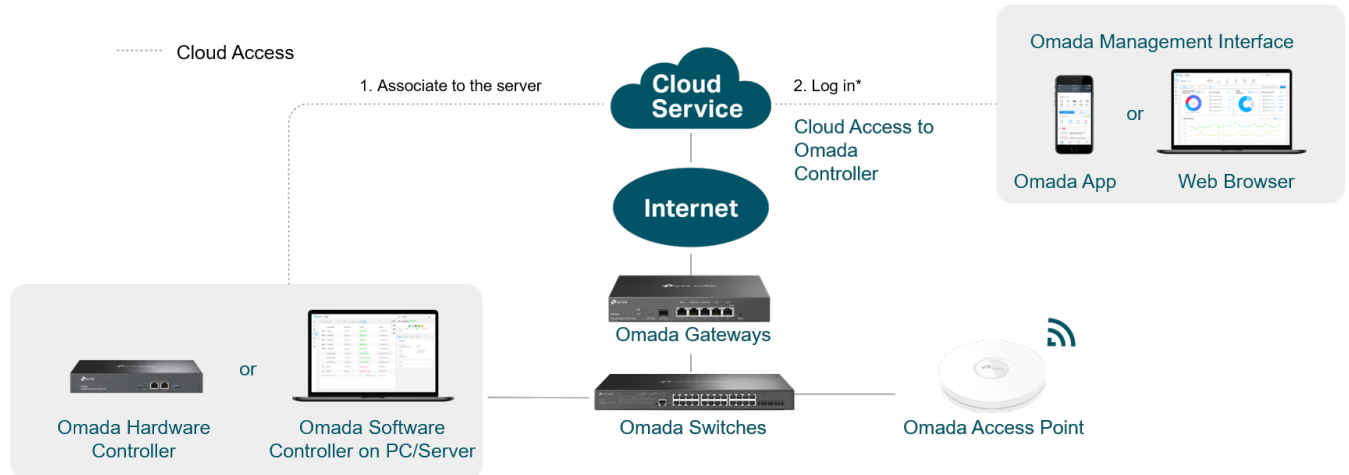


DS105G-M2

Omada 5-Port 2.5G Multi-Gigabit Desktop Switch

On-Premises Controller with Cloud Access

Omada offers cloud access to its on-premises centralized management platforms—Omada Software Controller or Omada Hardware Controller—to give you control of the whole network wherever you are through the Omada app or Web UI, without any additional service subscription fees.



Cloud Management with the Omada App

Follow configuration instructions on the free Omada app to get set up in minutes. The Omada app lets you configure settings, monitor the network status, and manage clients, all from a phone or tablet.



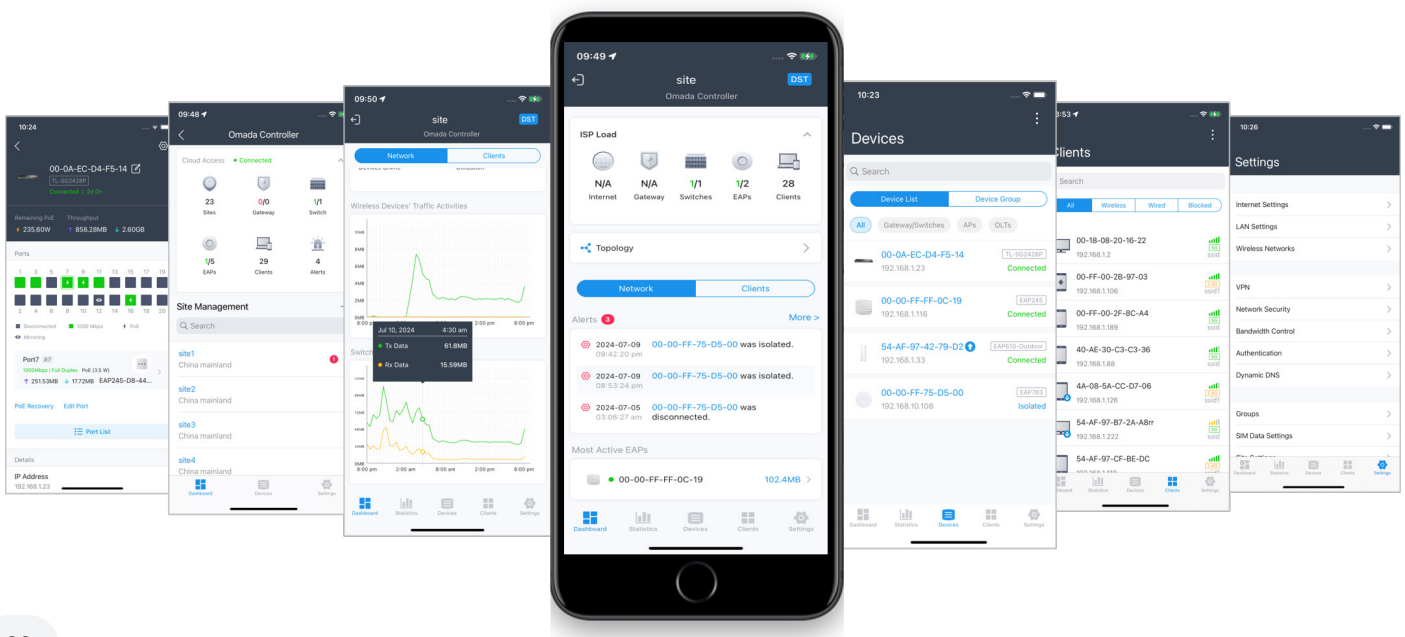
Cloud Access to Centralized Management



Real-time Monitoring and Management



Standalone Management



3.4 Omada L3, L2+, Smart, and Easy Managed Switches

Full Switching Upgrade

Omada provides abundant managed switch options that are capable of central management, including a series of L3/L2+ Managed switches, Smart switches, and Easy Managed switches. 25G, 10G, 2.5G, 1G, and Fast Ethernet ports are provided.



End-to-End High-Performance Enterprise-Level L3 Switches

Up to 25G High-Speed and Flexible Connectivity

- Aggregation switch: 25G slots, 820 Gbps switching capacity per unit
- Access switches: 10G uplink and 24 or 48 gigabit PoE or non-PoE ports

Omada SDN**

- Cloud Centralized Management
- Zero-Touch Provisioning
- Multi-Tenant Privilege Assignment
- Batch Configuration

Up to 1440W High PoE Capability

- Up to 1440/ 720 W PoE budget per unit*
- Perpetual PoE
- Fast PoE
- 802.3at PoE+ standard

Convenient Maintenance

- Multiple management methods, including Console port and MGMT port
- Web UI & CLI & SNMP & App**
- OAM, DDM, sFlow, RSPAN
- Temperature, Voltage, Current monitor
- Surge & ESD protection

Stacking, RPS and L3 Features for High Availability

- Up to 8 units of a physical stack***
- Redundant power supply & Fans
- Two flashes for redundant BOOT
- Fiber port/fan module/USB port fault isolation
- VRRP
- ERPS

High Performance

- Powerful CPU
- Advanced Switch Chip
- High Memory Capacity

More L3 Features

- RIP & OSPF
- PIM-SM/DM
- ECMP
- PBR
- Static Routing
- DHCP Server
- OUI-Based VLAN and QoS for VLAN

A Reliable Brand

- Better Support
- Vertical Integration and Stable Supply
- Longer Product Warranty
- A Best-In-Class Total Value

*The PoE budgets of SG6654XHP and SG6428XHP vary with the power supply modules.

**Requires the use of Omada SDN Controller.

*** Physical stacking up to 8 units at standalone mode and 4 units at controller mode

Multiple Hardware – Level Protections Ensure Continuous Operation of Equipment and Stable Network without Disconnection



①

3+1 Redundant Intelligent Fans

Field-replaceable and hot-swappable fans with intelligent fan speed adjustment capability ensure high-efficiency heat dissipation for maximum performance and less noise.

②

Optional 1+1 Redundant Power Supply

Field-replaceable and hot-swappable power supply modules ensure constant network connections even when changing power modules

*Ships with one PSM550-AC module by default, and another field-replaceable redundant power supply requires a separate purchase.



③

Two Flashes for Redundant BOOT

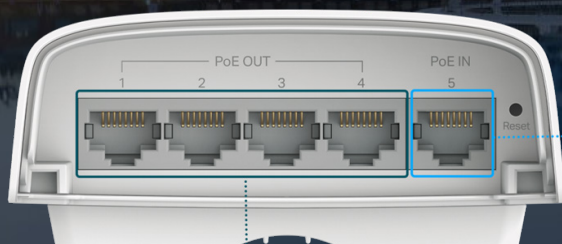
Two Flash chips are used to store BOOT software (system boot program) to achieve hardware-level BOOT redundant backup and avoid the failure of the switch to start due to FLASH chip failure.

④

Fiber Port/Fan Module/USB Port Fault Isolation

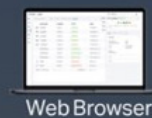
Fiber port fault isolation: Every two fiber ports, every fan module, and every USB port are isolated to be separately powered to reduce the impact of faulty modules on the entire machine and other fiber modules.

Standard PoE Passthrough to Extend Power and Data Transmission Distance to 200 m Without Losing Gigabit Speeds



Four Gigabit
PoE+ Out Ports

One Gigabit
PoE+ In Port



Web Browser



Omada App

Cloud Access



Internet



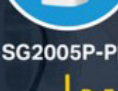
Omada VPN Router



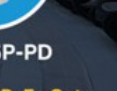
PoE++ Injector



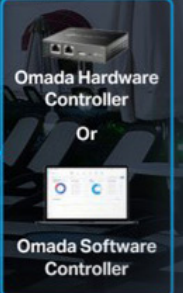
SG2005P-PD



Access Point



IP Camera



Omada Hardware
Controller

Or

Omada Software
Controller

— Data Only
— Data and Power
(Up to 100 m)

Up to 200 m
PoE Distance

Multi-Gigabit Unmanaged Switches Open Up New Possibilities

Omada's unmanaged switches with 10GbE or 2.5GbE provide more agility for high-speed connections. They are ideal for small and home offices, gaming set-ups, LAN parties, and home entertainment. Their plug and play design makes setting up a breeze.



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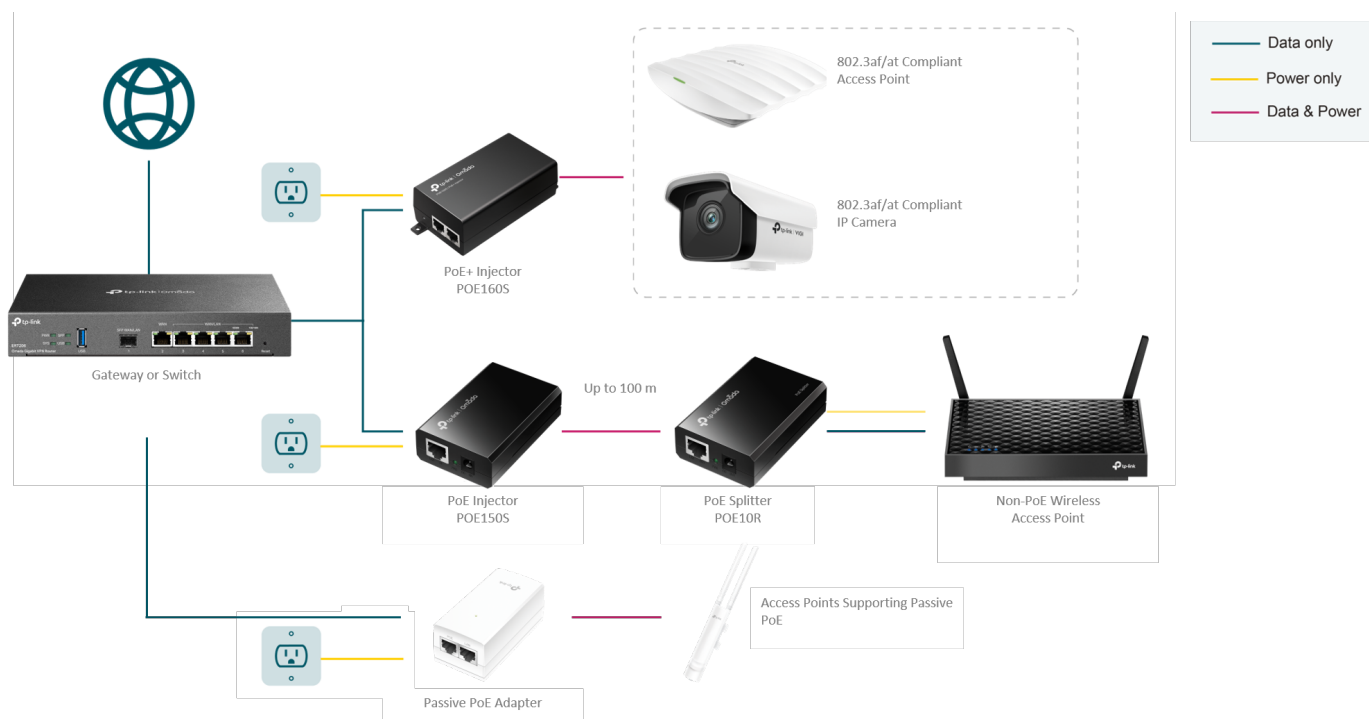
Omada 8-Port 2.5G Multi-Gigabit Desktop Switch



DS105G-M2

Omada 5-Port 2.5G Multi-Gigabit Desktop Switch

Omada PoE Adapters





ELV & IoT Products

For any successful smart township project, housing developers should adopt a Software-First policy by prioritizing the selection of software applications to be used by end users, even if ELV (Extra Low Voltage) and IoT (Internet of Things) hardware are installed ahead of the smart software implementation.

The ELV and IoT products featured in this catalogue—such as door access and time attendance devices, lift access systems, turnstiles, parking equipment, IP surveillance systems, and IP telephony systems—are typically installed during the construction stage to ensure a perfect fit with the TimeTec Smart Township Ecosystem.

SENTRITEC

The SentiTec Series is a high-end access control reader designed to seamlessly integrate with the TimeTec Cloud Ecosystem.



Note: TimeTec owns the SentiTec and FingerTec brands. FingerTec is primarily used for product-based sales, while SentiTec is more exclusively applied in project-based deployments within the TimeTec Cloud City ecosystem. Therefore, only the SentiTec series is introduced in this Catalogue due to its project-based nature.

SENTRITEC

Access Core 1

Minimal Footprint, Mighty Unlocking

Access Core 1, iF Design Award 2025 Winner, is a cutting-edge access control terminal featuring a compact profile and advanced unlocking capabilities, ensuring robust security without compromising efficiency.

IP65 PoE Wiegand Linux



Card Reader

125kHz and 13.56MHz and NFC



Output Relay

output relay for door opener



Interface

1 x Wiegand, 2 x input ports, and 1 x RS485



BLE 5.0

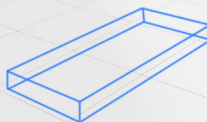


QR Code Scanner



Dimensions

50 x 140 x 26.7 mm



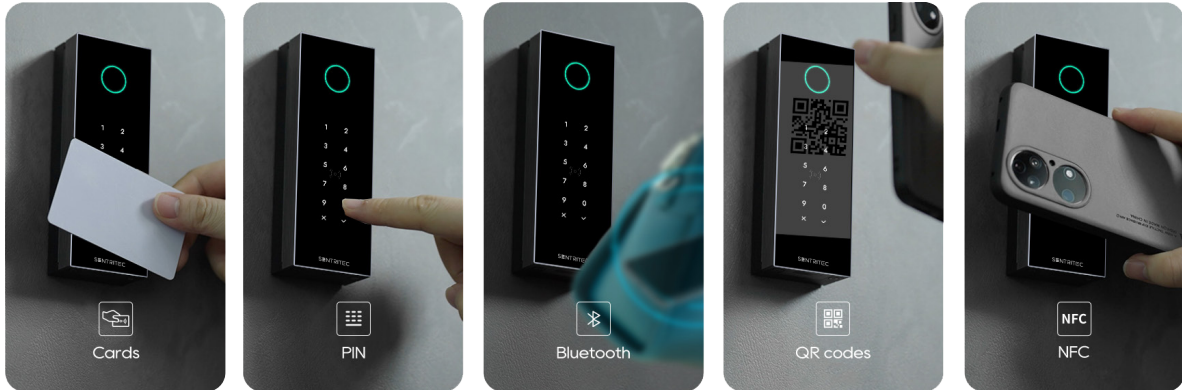
Space-efficient Profile for Any Building Environments

The slimline profile makes the Access Core 1 adaptable to a range of spaces. It can fit discreetly into narrow spaces such as a door frame or a stand, optimizing space utilization while providing ease of installation.



Flexible Access Methods for Enhancing User Experiences

Despite its slim profile, the Access Core 1 offers five types of door unlocking options, providing users with a seamless and convenient experience catered to diverse user preferences.



SentiTec Access Core 1 with HID® Reader Modules

The new version of Access Core 1, equipped with a built-in HID reader module, ensures fast, stable reads across varied environments and provides high-security performance. The integration of HID RFID technology enhances the door entry experience for users relying on card-based access.



Auto Keypad Wake-up for Energy Conservation

The terminal conserves energy by activating the touch keypad only when detecting movement, contributing to sustainability efforts while ensuring a responsive and efficient user interface.



SENTRITEC

Access Core 1

SentriTec Access Core 1 is a slim access control terminal that combines a door controller and card reader in one device, saving costs for building operators. It offers flexible credentials, including PIN code, QR scanning, wave-to-unlock via Bluetooth, mobile access via NFC and RFID cards.

At a Glance

- Aluminum alloy frame with toughened glass;
- IP65 & IK09;
- 20,000 card capacity & 100,000 Event Logs;
- Multiple access methods: QR Code, Bluetooth, PIN, RFID;
- Flush-mounted & surface-mounted;
- Supports Wiegand & OSDP protocols.



Physical & Power

- Front panel: Toughened Glass
- Frame: Aluminum Alloy
- RFID card reader: 13.56MHz & 125kHz
- Relay out: 1
- Inputs: 2
- Wiegand: Support
- RS485: Support
- Speaker: 8Ω / 0.5W
- Tamper proof alarm: Support
- Ethernet port: RJ45, 10/100Mbps adaptive

- 12V DC connector (if not using PoE)
- Power output: 12V 600mA
- IP Level: IP65
- IK Rating: IK09
- Installation: Flush-mounted or Wall-mounted
- Dimension: 50 x 140 x 26.7 (mm)
- Working Humidity: 10~90%, no condensing
- Working Temperature: -20°C ~ +55°C
- Storage Temperature: -30°C ~ +70°C

Networking & Protocol

- Protocols support: IPv4, HTTP, HTTPS, FTP, DNS, NTP, TCP, UDP, ICMP, DHCP, ARP

Deployment & Maintenance

- Auto-Provisioning
- Web management portal
- Web-based packet dump
- Configuration backup / restore
- Firmware upgrade
- SentriTec Cloud management
- SentriTec SDMC & ACMS

Door Entry Feature

- Access schedule
- Access level management
- Support switch to reader mode
- Door access logs
- Flexible shift scheduling and attendance management

Application Scenario

- Provides access control for buildings such as condominiums, apartment buildings, office buildings, gated communities and industrial buildings.

SENTRITEC Face Edge 1

Budget-Friendly Yet Smart

SentriTec Face Edge 1 is a 7" face recognition door phone featuring touchless building access, wireless communication, hassle-free management, and more.

IP65 Onvif PoE Wiegand Linux



7 Unlocking Methods Bring Users Super Convenience



4G Connectivity is Perfect for Old Buildings

Old buildings with outdated wiring? No problem! Face Edge 1 supports LTE communication. All you need for installation is a power supply, saving installation time and rewiring costs.



Complying to COVID-19 Regulations Requires No Additional Labor

If your sites need to comply with COVID-19 regulations, just add a temperature detection module to Face Edge 1 to automate the process. No need for additional staff to do the job.

* A temperature detection module (optional) is required.

SENTRITEC Face Edge 1

SentriTec's Face Edge 1 is a safe and convenient commercial-grade device for both intercom & access control. With the latest deep learning algorithm and dual cameras liveness detection technology, Face Edge 1 can be deployed in the field for community and commercial applications, for the implementation of smart access control.

At a Glance

- Plastic body with 7 inch touchscreen;
- Linux operating system;
- Wide-angle camera: 62° (H), 36° (V);
- Two-way audio communication over IP networks with Echo Cancel feature;
- Multi-way access feature including: Face, Card, PIN, BLE & QR code;
- Surface-mounted;
- Complies with SIP & ONVIF.

Anti-epidemic Function

- Mask Detection
- Body Temperature Detection [Only Face Edge 1 (MD02) support]

Physical & Power

- Housing Material: Plastic
- Display: 7 Inch IPS LCD, 1024x600
- Camera: 2M pixels, WDR
- Wiegand: 2
- RS485 Port: 1
- RF Card Reader: 13.56MHz, 125kHz & NFC
- Relay Out: 2
- Inputs: 3
- TF Card Slot: 1
- Tamper Alarm: Support

Identification

- Identification Mode: Face, PIN, NFC, RFID Card, BLE & QR code
- Identification Speed: < 200ms

Capacity

- Face Capacity: 20,000
- Card Capacity: 20,000
- Event Logs: 50,000

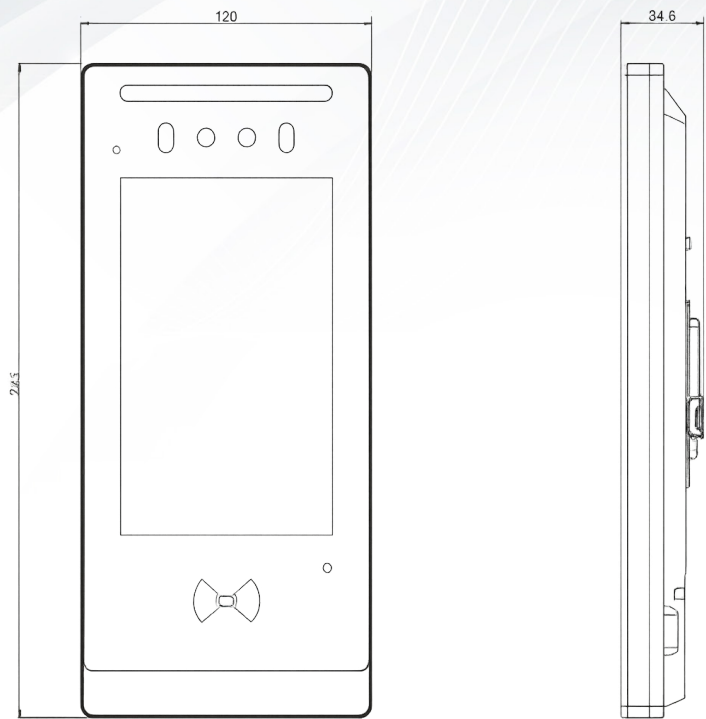
- Ethernet Port: RJ45, 10/100Mbps adaptive
- BLE: Support
- Reset: 1
- 802.3af Power-over-Ethernet
- 12V DC Connector (if not using PoE)
- Installation: Flush-mounted & Wall-mounted
- Size: 275×120×34.6mm
- IP Rating: IP65
- Working Humidity: 10–90%, no condensing
- Working Temperature: -20°C ~ +55°C
- Storage Temperature: -30°C ~ +60°C

Temperature Measurement

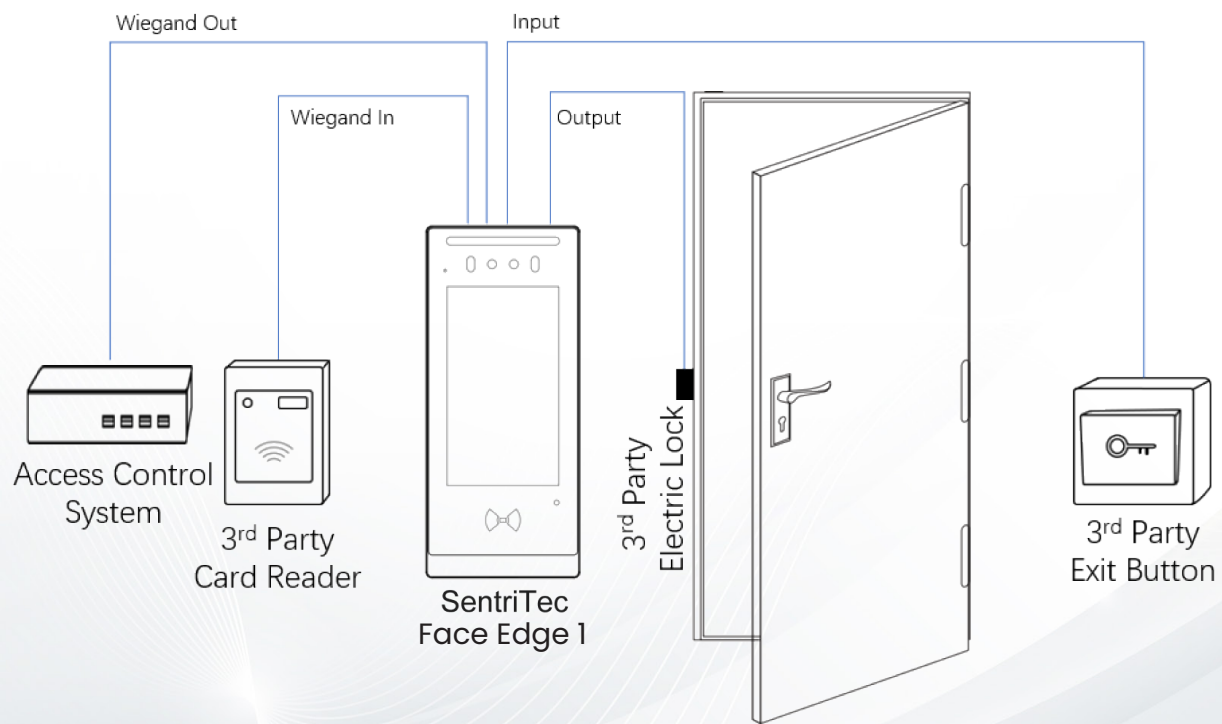
- Only Face Edge 1C (MD02) support
- Distance: 0.3M ~ 1M
- Accuracy: 0.1°C
- Deviation: ±0.3°C
- Range: 34°C ~ 45°C



Dimensions



Application



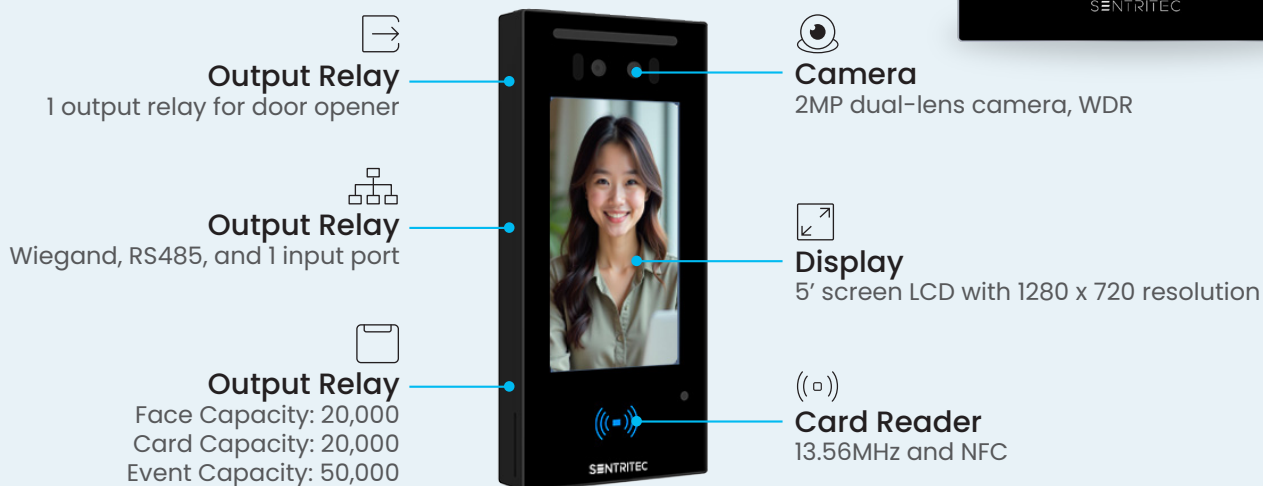
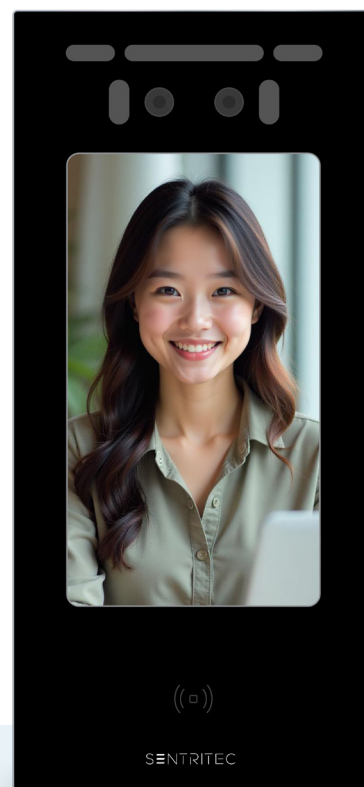
SENTRITEC

Face Core 1

Face recognition, mobile access, temperature measurement, and mask detection in one device.

Face Core 1 is a budget-friendly face recognition door phone, which offers excellent intercom communication and flexible access control methods like AI-powered face recognition and mobile app. It is typically used in commercial and residential applications.

IP15 PoE Wiegand Linux

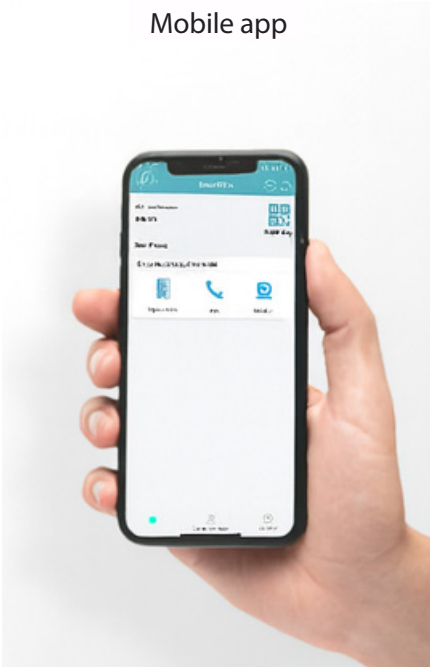


Easy to Use and Install

- Easy-to-navigate touchscreen user
- Excellent speech intelligibility in any situation
- Easy installation only requiring power, internet, and door strike
- Space-saving 5-inch design perfect for narrow door frames

Flexible Authentication

Mobile app



Face recognition



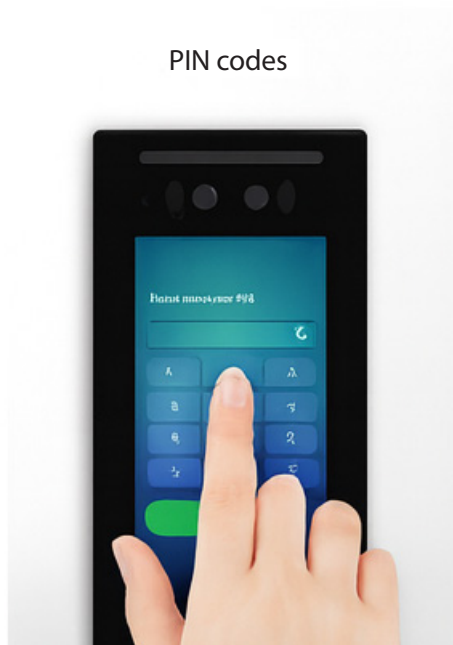
NFC



QR codes



PIN codes



IC cards



Future-proof Face Recognition Access

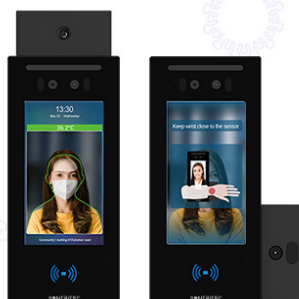
Face Core 1 offers fast, safe and reliable access control via face recognition, which adapts to your facial changes over time.



36.2° C

Smart COVID-19 Features

Face Core 1 helps businesses comply with governments' COVID-19 guidelines while reducing manpower resources.



Non-contact forehead temperatures detection (optional)



Non-contact wrist temperatures detection (optional)



Non-contact face mask detection

Fit for Diverse Applications

The system can be tailored to diverse scenarios by integrating with various 3rd-party systems, such as time attendance and visitor management systems.



SENTRITEC

Face Core 1

SentriTec's Face Core 1 is a safe and convenient commercial-grade device for both intercom & access control. With the latest deep learning algorithm and dual cameras liveness detection technology, Face Core 1 can be deployed in the field for community and commercial applications, for the implementation of smart access control.

At a Glance

- Plastic body with 5 inch touchscreen;
- Linux operating system;
- Wide-angle camera: 62° (H), 36° (V);
- Two-way audio communication over IP networks with Echo Cancel feature;
- Multi-way access feature including: Face, Card, PIN, BLE & QR code;
- Surface-mounted;
- Complies with SIP & ONVIF.

Anti-epidemic Function

- Mask Detection
- Body Temperature Detection [Only Face Core 1 (MD01) & Face Core 1C (MD02) support]

Physical & Power

- Body Material: Plastic
- Display: 5 Inch IPS LCD, 1280x720
- Camera: 2M pixels, WDR
- Wiegand Port: Support
- RS485 Port: Support
- RF Card Reader: 13.56MHz, NFC
- Relay Out: 1
- Inputs: 1
- Ethernet Port: RJ45, 10/100Mbps adaptive

Identification

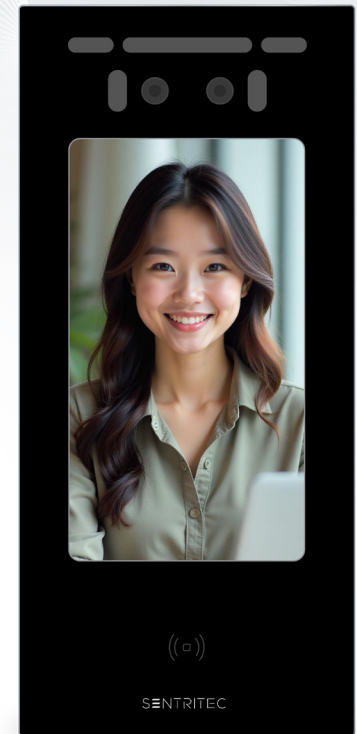
- Identification Mode: Face, PIN, NFC, RFID Card, BLE & QR code
- Identification Speed: < 200ms

Capacity

- Face Capacity: 20,000
- Card Capacity: 20,000
- Event Logs: 50,000

Forehead Temperature Measurement

- Only E16C (MD02) support
- Distance: 0.3M ~ 1M
- Accuracy: 0.1°C
- Deviation: ±0.3°C
- Range: 34°C ~ 45°C

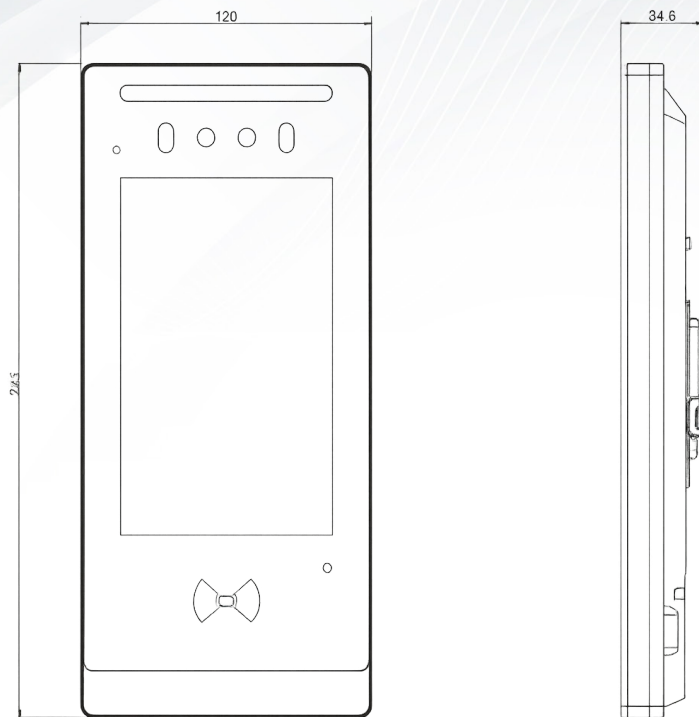


- BLE: Support
- 802.3af Power-over-Ethernet
- 12V DC Connector (if not using PoE)
- Tamper Alarm: Support
- Installation: Wall-mounted
- Size: 192×88×23.8mm
- IP Level: IP65
- Working Humidity: 10–90%, no condensing
- Working Temperature: -20°C ~ +55°C

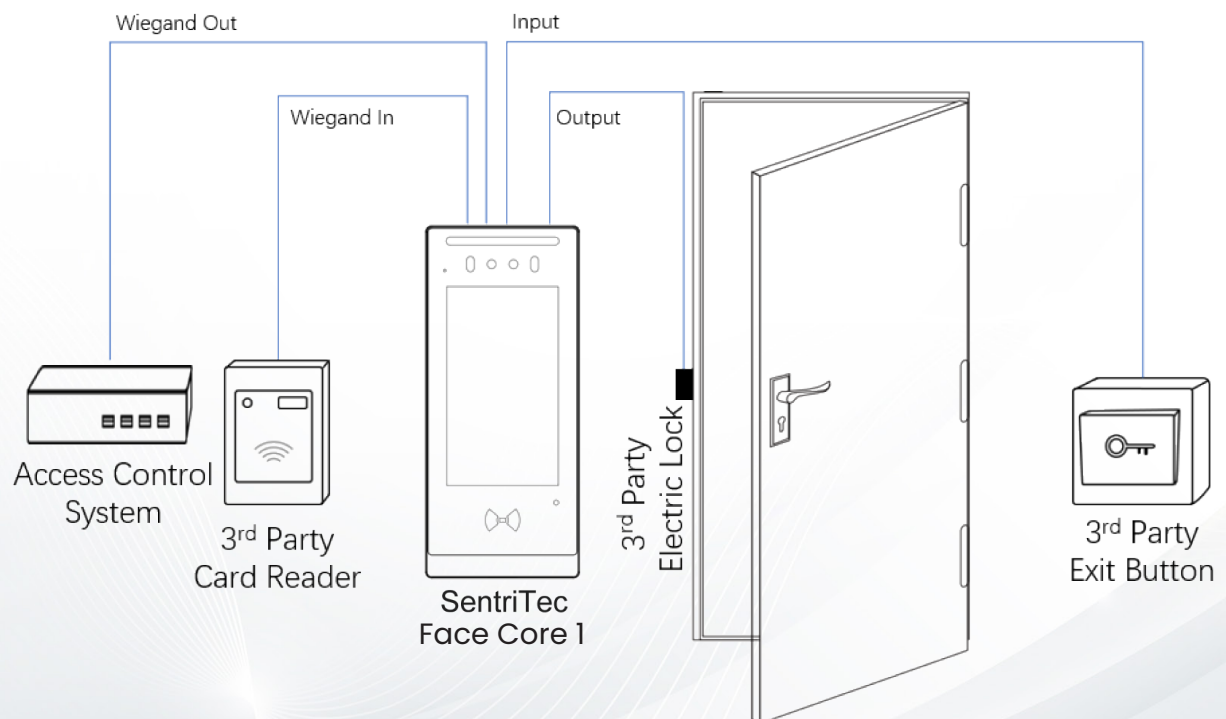
Wrist Temperature Measurement

- Only Face Core 1C (MD01) support
- Distance: 1cm ~ 5cm
- Accuracy: 0.1°C
- Deviation: ±0.3°C
- Range: 34°C ~ 45°C

Dimensions



Application



SENTRITEC

Access Neo 1

Smart, Compact, and Stylish Access Control Terminal

Access Neo 1 is an IP-based access control terminal that combines door controller and card reader in one device. It supports RFID cards and mobile access via NFC, offering users flexibility in credential options.



PoE



Wiegand



Linux



Card reader: BLE 5.0, NFC, and 125kHz and 13.56MHz cards



TCP / IP communication



Capacity: 20,000 cards and 100,000 event logs



802.3af PoE



Tamper proof alarm

Two Devices in One

Access Neo 1 is a card reader as well as a door controller, saving much cost for building operators. When a credential is read and access is granted or denied by Access Neo 1, Access Neo 1 also triggers the door lock to take appropriate actions.

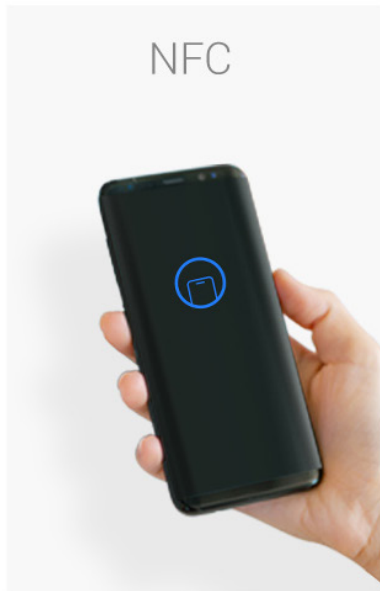


Card Reader



Door Controller

NFC



RFID cards



Flexible Credential Options

Access Neo 1 provides two credential options to suit users' preferences and habits. The mobile access via NFC lets users go cardless and touchless, which is more convenient and safer.

Designed for Easy Deployment

Access Neo 1 requires less wiring and installation effort thanks to its PoE support and a Wiegand interface and can be easily configured and maintained via a web user interface.



PoE

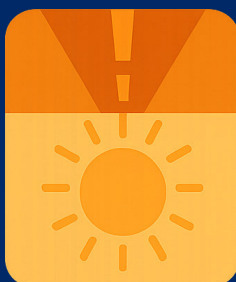


Wiegand



Fit for Outdoor Environments

IP65 rating and a wide working temperature range from -20°C to +55°C protect Access Neo 1 against rain, heat, snow, dust, and dirt.



SENTRITEC

Access Neo 1

SentriTec's Access Neo 1 access control terminal incorporates door controller and an RFID reader in one standalone device, thus saving your solution costs. Equipped with an RFID reader (125kHz and 13.56MHz) which is capable of handling a majority of cards in wide use currently, Access Neo 1 is designed to provide you with greater flexibility and security than those traditional access control systems.

At a Glance

- Aluminum alloy with toughened glass front;
- Linux operating system;
- Multi-frequency RFID card reader;
- 20,000 card capacity & 100,000 Event Logs;
- Flush-mounted & Wall-mounted;
- IP65 & IK07 for outdoor usage;
- Compatible with SentriTec cloud & ACMS.

Physical & Power

- Front panel: Toughened Glass
- Frame: Aluminum Alloy
- RFID card reader: 13.56MHz & 125kHz
- Relay out: 1
- Inputs: 2
- Wiegand: Support
- Speaker: 1
- Tamper proof alarm: Support
- Ethernet port: RJ45, 10/100Mbps adaptive

Capacity

- User Capacity: 20,000
- Card Capacity: 20,000
- Event Logs: 100,000

Deployment & Maintenance

- Auto-Provisioning
- Web management portal
- Web-based packet dump
- Configuration backup / restore
- Firmware upgrade
- System logs



- 802.3af Power-over-Ethernet
- 12V DC connector (if not using PoE)
- IP Rating: IP65
- IK Rating: IK07
- Installation: Flush-mounted or Wall-mounted
- Dimension: 86 × 86 × 33 (mm)
- Working Humidity: 10–90%, no condensing
- Working Temperature: -20°C ~ +55°C
- Storage Temperature: -30°C ~ +70°C

Networking

- Protocols support: IPv4, HTTP, HTTPS, FTP, DNS, NTP, TCP, UDP, ICMP, DHCP, ARP

Door Entry Feature

- Access schedule export/import
- Access level management
- Support switch to reader mode
- Door access logs query and export
- Flexible shift scheduling and attendance management

SENTRITEC

Access Neo 2

Smart, Compact, and Stylish

Access Control Terminal

Access Neo 2 is an IP-based access control terminal that combines door controller and card reader in one device. It supports PIN codes, RFID cards, and mobile access via NFC, offering users flexibility in credentials options.



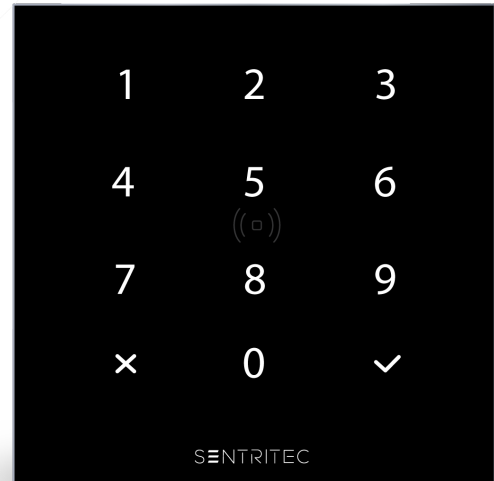
PoE



Wiegand



Linux



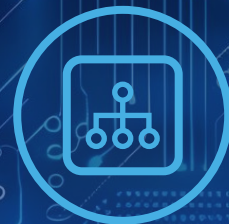
-  Touch keypad
-  Card reader: 125kHz and 13.56MHz RFID cards and NFC
-  TCP / IP communication
-  Capacity: Up to 20,000 cards and 100,000 event logs
-  802.3af PoE
-  Tamper-proof sensor

Two Devices in One

Access Neo 2 is a card reader as well as a door controller, saving much cost for building operators. When a credential is read and access is granted or denied by Access Neo 2, Access Neo 2 also triggers the door lock to take appropriate actions.



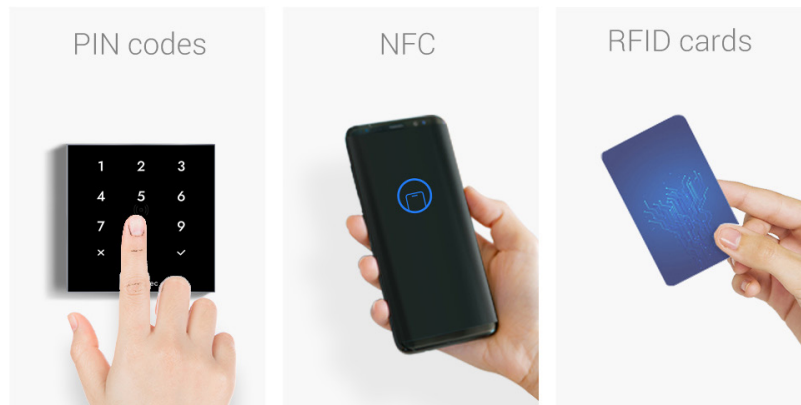
Card Reader



Door Controller

Flexible Credential Options

Access Neo 2 provides multiple credential options and two-factor authentication for enhanced security. The mobile access via NFC lets users go cardless and touchless, which is more convenient and safer.



Designed for Easy Deployment

Access Neo 2 requires less wiring and installation effort thanks to its PoE support and a Wiegand interface and can be easily configured and maintained via a web user interface.



Fit for Outdoor Environments

IP65 rating and a wide working temperature range from -20°C to $+55^{\circ}\text{C}$ protect Access Neo 2 against rain, heat, snow, dust, and dirt.



SENTRITEC

Access Neo 2

SentriTec's Access Neo 2 is an access control terminal equipped with an RFID reader, controller, and touch keypad. It supports multiple modes of door access authentication for the users (PIN code, NFC and RFID). And it can be easily connected to a PoE using an Ethernet cable for data transmission. Access Neo 2 provides you with greater flexibility and security than those traditional access control systems.

At a Glance

- Aluminum alloy with Touch Keypad;
- Linux operating systems;
- Multi-way access features include RFID cards, NFC and PIN codes;
- 20,000 card capacity & 100,000 event logs;
- Flush-mounted & Wall-mounted;
- IP65 & IK07 for outdoor usage;
- Compatible with SentriTec cloud & ACMS.



Physical & Power

- Front panel: Touch Keypad
- Frame: Aluminum Alloy
- RFID card reader: 13.56MHz & 125kHz
- Relay out: 1
- Inputs: 2
- Wiegand: Support
- Speaker: 1
- Tamper proof alarm: Support
- Ethernet port: RJ45, 10/100Mbps adaptive

- 802.3af Power-over-Ethernet
- 12V DC connector (if not using PoE)
- IP Rating: IP65
- IK Rating: IK07
- Installation: Flush-mounted or Wall-mounted
- Dimension: 86 × 86 × 33 (mm)
- Working Humidity: 10–90%, no condensing
- Working Temperature: -20°C ~ +55°C
- Storage Temperature: -30°C ~ +70°C

Capacity

- User Capacity: 20,000
- Card Capacity: 20,000
- Event Logs: 100,000

Deployment & Maintenance

- Auto-Provisioning
- Web management portal
- Web-based packet dump
- Configuration backup / restore
- Firmware upgrade
- System logs

Networking

- Protocols support: IPv4, HTTP, HTTPS, FTP, DNS, NTP, TCP, UDP, ICMP, DHCP, ARP

Door Entry Feature

- Access schedule export/import
- Access level management
- Support switch to reader mode
- Door access logs query and export
- Flexible shift scheduling and attendance management

SENTRITEC

Access Neo 3

Bluetooth + RFID Access Control Terminal

Access Neo 3 is an IP-based access control terminal combining a reader and a door controller. It offers flexible credentials, including wave-to-unlock via Bluetooth, mobile access via NFC, and RFID cards.



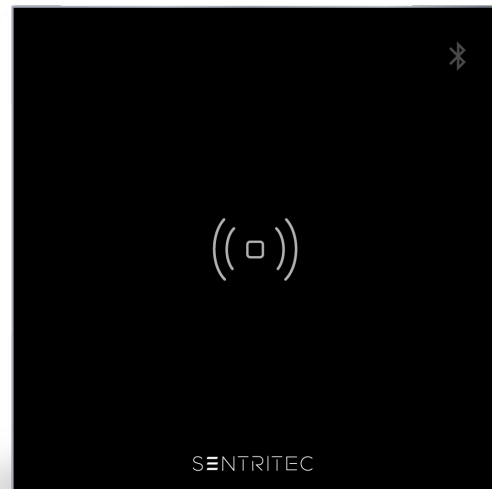
PoE



Wiegand



Linux



- Card reader: BLE 5.0, NFC, and 125kHz and 13.56MHz cards
- Output Relay: Output relay for the door opener
- Interface: Wiegand x 1, input port x 2
- Capacity: 20,000 cards and 100,000 event logs
- 802.3af PoE
- Tamper proof alarm

Two Devices in One

Access Neo 3 is a door controller and a reader in one, which means it can work standalone or be networked with other systems.



Card Reader



Door Controller

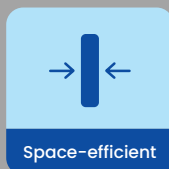
Wave-to-unlock Access

Access Neo 3 offers flexible credential options, including BLE, NFC, and RFID. Users can wave a hand to unlock doors when Access Neo 3 is linked to the SentiTec My MobileKey app via BLE.



Installer-friendly Deployment

Supporting PoE, Access Neo 3 only requires a network cable for installation. With a compact size, it is perfect for buildings with limited installation space.



Ease of Integration

With the API available, it is possible to integrate Access Neo 3 with various 3rd-party systems, such as elevator controllers, existing access control units of buildings, and time-attendance systems.



SENTRITEC

Access Neo 3

SentriTec Access Neo 3 is a safe and convenient commercial-grade device for access control. It offers you a BLE feature that enables you to open door via credential on your smartphone. And it can be easily connected to a PoE using an Ethernet cable for data transmission. Access Neo 3 provides you with greater security and flexibility than those traditional access control systems.

At a Glance

- Aluminum alloy with toughened glass front;
- Linux operating systems;
- Multi-way access feature including: RFID cards, NFC and BLE;
- 20,000 card capacity & 100,000 Event Logs;
- Flush-mounted & Wall-mounted;
- IP65 & IK07 for outdoor usage;
- Compatible with SentriTec cloud & ACMS.



Physical & Power

- Front panel: Toughened Glass
- Frame: Aluminum Alloy
- RFID card reader: 13.56MHz & 125kHz
- BLE: Support
- Relay out: 1
- Inputs: 2
- Wiegand: Support
- Speaker: 1
- Tamper proof alarm: Support
- Ethernet port: RJ45, 10/100Mbps adaptive

- 802.3af Power-over-Ethernet
- 12V DC connector (if not using PoE)
- IP Rating: IP65
- IK Rating: IK07
- Installation: Flush-mounted or Wall-mounted
- Dimension: 86 × 86 × 33 (mm)
- Working Humidity: 10–90%, no condensing
- Working Temperature: -20°C ~ +55°C
- Storage Temperature: -30°C ~ +70°C

Capacity

- User Capacity: 20,000
- Card Capacity: 20,000
- Event Logs: 100,000

Deployment & Maintenance

- Auto-Provisioning
- Web management portal
- Web-based packet dump
- Configuration backup / restore
- Firmware upgrade
- System logs

Networking

- Protocols support: IPv4, HTTP, HTTPS, FTP, DNS, NTP, TCP, UDP, ICMP, DHCP, ARP

Door Entry Feature

- Access schedule export/import
- Access level management
- Support switch to reader mode
- Door access logs query and export
- Flexible shift scheduling and attendance management

SENTRITEC QR 110

Unlock With QR Code

Simply scan your way with SentiTec QR 110 to conveniently obtain access to your space. The administrator just needs to issue all credentials for the authorized personnel and every time these credentials are used, the bundled software will record every activity accurately as well as keep the data secure for future references. SentiTec QR110 links to the Ingressus controller to control the access to your premises. Get SentiTec QR 110 for a simple, affordable and convenient access control system.



Reading Speed and Interval

Performance at Its Finest

Speed

< 0.2 sec

Interval

< 0.5 sec



Verification & Communication

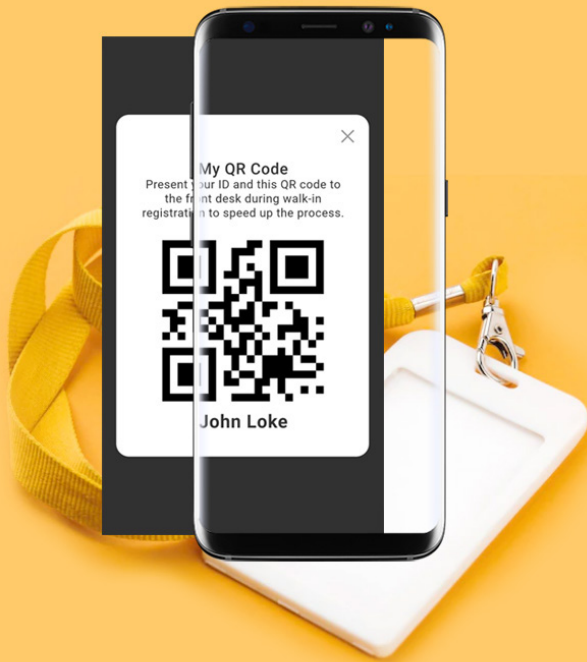
Different Credentials to Cater to Unique Needs

Verification

- QR Code

Communication

- Wiegand
- RS485



Support Dynamic QR Code

Multi-Function Reader

Create a time-sensitive QR code that sets temporary access for visitors.

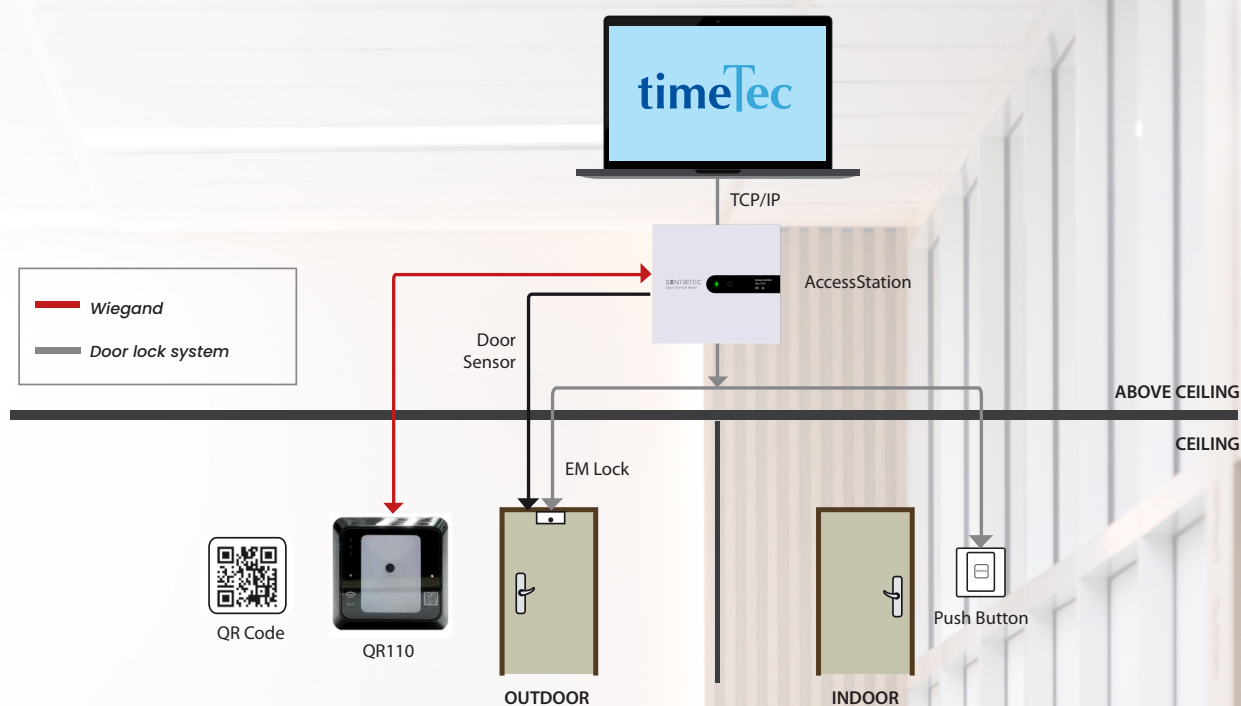
Low Implementation Cost

Simple Yet Effective

By utilising a smartphone, users can carry a QR code to gain access without having to invest in additional tokens or gadgets.



Layout Plan



Specifications

MODEL	QR110
DIMENSION (L X W X H), mm	86 x 50 x 86
CREDENTIALS	QR Code
OUTPUT FORMAT	Wiegand 26/34
COMMUNICATION DISTANCE	Wiegand <100m RS485 < 1200m
WORKING VOLTAGE	DC 9 ~ 16V
WORKING CURRENT	< 100mA
WORKING ENVIRONMENT	Temperature (°C): -10 ~ 70 Humidity (%): 10 ~ 70 (Indoor use)
SENSING DISTANCE	QR Code (cm): 3~10
READING SPEED	< 1 second
SUPPORT READING INTERVAL	<0.5 seconds
	Face ID 6, Face ID 5, Kadex + Q2i, R3, R2, Face ID 3, Kadex, m-Kadex, Ingressus I/II/IV

SENTRITEC AccessStation

Smart and Stylish 4 Door Controller

SentriTec AccessStation is an intelligent access controller housed in a stylish SGCC cabinet. It provides the advantages of access control of four doors over a centralized system. Supporting standalone and networked deployment, it can be applied to projects of various scales.

 Wiegand



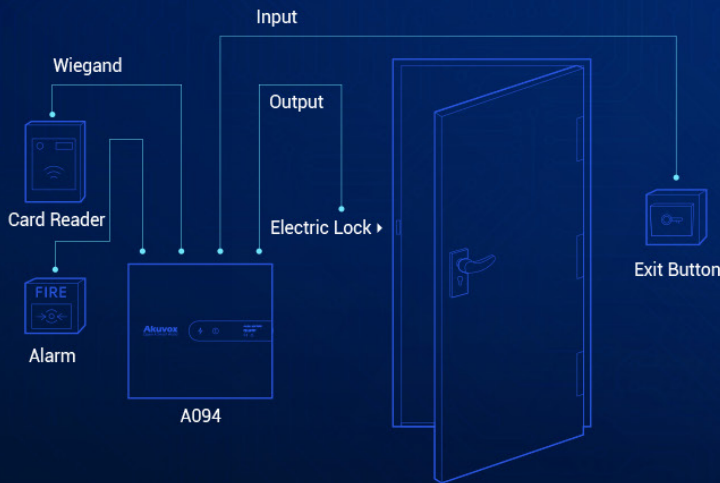
-  Supports up to 50,000 users and 100,000 event logs
-  Supports RS485 and Wiegand protocols
-  Tamper-proof sensor
-  Backlit function icons
-  Support backup battery (backup battery not supplied)

Smart Access Control with Easy Management

SentriTec AccessStation centralizes user data and access credentials when working standalone and can be easily configured and maintained via a browser.

-  Support up to four readers
-  Support 4 doors access control
-  Access scheduling
-  Permission management
-  Event logs auditing
-  Emergency door release



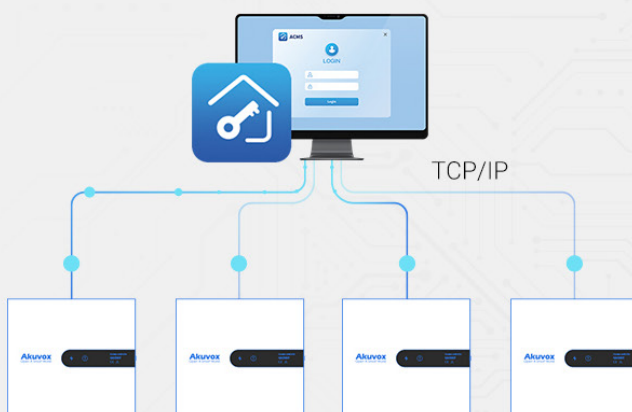


Multi-port Interface for Effortless Integration

Supporting RS485 and Wiegand protocols and featuring 8 output relays and 13 inputs, and 4 power out ports, SentiTec AccessStation can work seamlessly with various external devices, such as card readers, door locks, and fire alarms.

Enhanced Security

- Battery backup design keeping SentiTec AccessStation running during a power outage
- Tamper-proof design for extra device security
- Communication via TLS 1.2 with AES-256 encryption to safeguard user data



Easy-to-scale System

Communicating over TCP/IP, SentiTec AccessStation can be networked with SentiTec's access control software so the system can be scaled to multiple doors and locations.

SENTRITEC

AccessStation

The SentiTec AccessStation is a 4-door access controller with Ethernet interface. It supports 50,000 users and various functions that enable you to control who comes into your building. The tamper-proof design makes it more secure and reliable.

At a Glance

- Stylish appearance;
- Linux operating system;
- Supports RS485, Wiegand protocol for accessing card readers;
- Supports TCP/IP communication and web interface for management;
- Supports up to 50,000 users and 100,000 log records;
- Supports anti-pass back function & emergency door release (EDR);
- Support tamper proof alarm;
- Wall-mounted;
- Easy to establish large-scale access control system with SentiTec ACMS.



Physical & Power

- Front panel: SGCC
- Power input: 100–240VAC / 1.5A, 50/60Hz
- Wiegand port: 4
- Relays out: 8
- Inputs: 13
- RS485 port: 4
- Power output: 4
- Ethernet port: RJ45, 10/100 Mbps, adaptive

- Tamper proof alarm: Support
- Status lights: Support
- Installation: Wall-mounted
- Dimension: 365 × 340 × 85 (mm)
- Working Humidity: 10%–90%
- Working Temperature: -10°C ~ +55°C
- Storage Temperature: -20°C ~ +70°C

Door Entry Features

- 50,000 user storage
- Anti-pass back function
- Multi-door interlock function
- Access table export & import
- Access level management
- Door access logs query and export

Card Readers

- Support Wiegand 26/34/58 readers
- Support RS485 readers

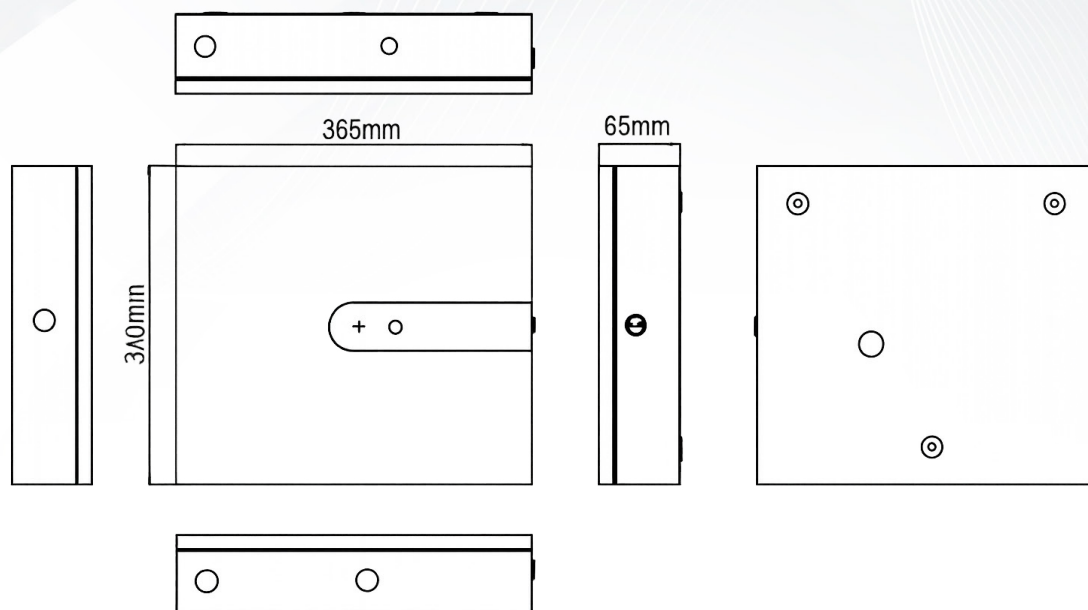
Networking

- Protocols support: IPv4, HTTP, HTTPS, FTP, TFTP, DNS, SNMP, TCP, UDP, TLS, ICMP, DHCP, ARP

Deployment & Maintenance

- Auto-Provisioning
- Web management portal
- Web-based packet dump
- Configuration backup / restore
- Firmware upgrade
- System logs

Dimensions



SENTRITEC LiftStation

Enhancing Building Security

SentriTec LiftStation is an IP-based elevator access controller, which works with all SentriTec intercoms and access control terminals. It is typically used in multifamily and office buildings to enhance building access security.



-  10/100M Ethernet
-  Large storage: 20,000 cards and 100,000 logs
-  Have 32 outputs and support expansion to 64 outputs
-  Wiegand 26/34 supported
-  Work with access control terminals via HTTP commands
-  Fire alarm input for emergency door release or daily elevator command
-  TimeTec Cloud supported



Seamless Building Entry Experience

Thanks to the integration with SentriTec intercoms, the moment residents and visitors gain access at the building entrance via a SentriTec door phone, SentriTec LiftStation will send the elevator to the first floor for them, saving their waiting time.

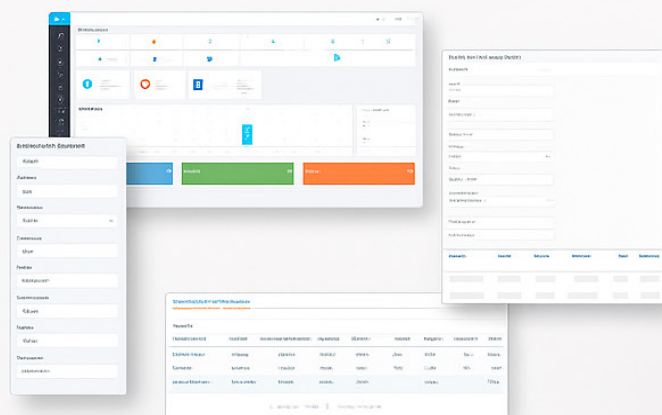
Enhanced Building Security

SentriTec LiftStation can be linked to SentriTec door phones or an access control terminal in the elevator to enhance building security. Only authorised floors will be unlocked for visitors to ensure they go to the correct floors.



Effortless Remote Management

When connected to the SentriTec cloud, SentriTec LiftStation can be maintained and upgraded remotely from an easy-to-use management portal on a computer, which requires minimum training for property staff.



SENTRITEC

LiftStation

The SentiTec LiftStation is an IP elevator controller which uses HTTP commands to communicate with other SentiTec devices. Each controller has 32 outputs and can expand to 64 outputs.

At a Glance

- 10/100M Ethernet;
- Large storage for 20,000 card and 100,000 logs;
- SentiTec LiftStation supports 32 outputs and can connect to an expansion controller to expand to 64 outputs;
- RS485 port to connect to a expansion controller;
- Fire Alarm input to support emergency door release or normal lift commands;
- Works with other SentiTec devices by using HTTP commands;
- SentiTec Cloud supported.

Physical & Power

- Communication: TCP/IP
- RS485: Support
- Relays out: 32
- Wiegand: Wiegand 26/34
- RS485: Support
- RJ45 port: 1
- Fire alarm input: 1
- Power supply: 100–240VAC Input or PoE
- PoE: IEEE802.3af PoE
- Rated power: <10W
- Working temperature: <45°C
- Working humidity: 10%–90%
- Dimension: 320 × 270 × 75 (mm)



Turnstile

Saturn Plus Series

Unveiling the **ZKTeco Saturn Plus Series**, an innovative swing barrier turnstile designed for an unparalleled passage experience. The Saturn Plus Series offers two models (S1000 Plus and S1200 Plus). Its chassis is made from cold-rolled steel SPCC (GB700), providing an IPX4 protection rating that ensures it can withstand water and dust.

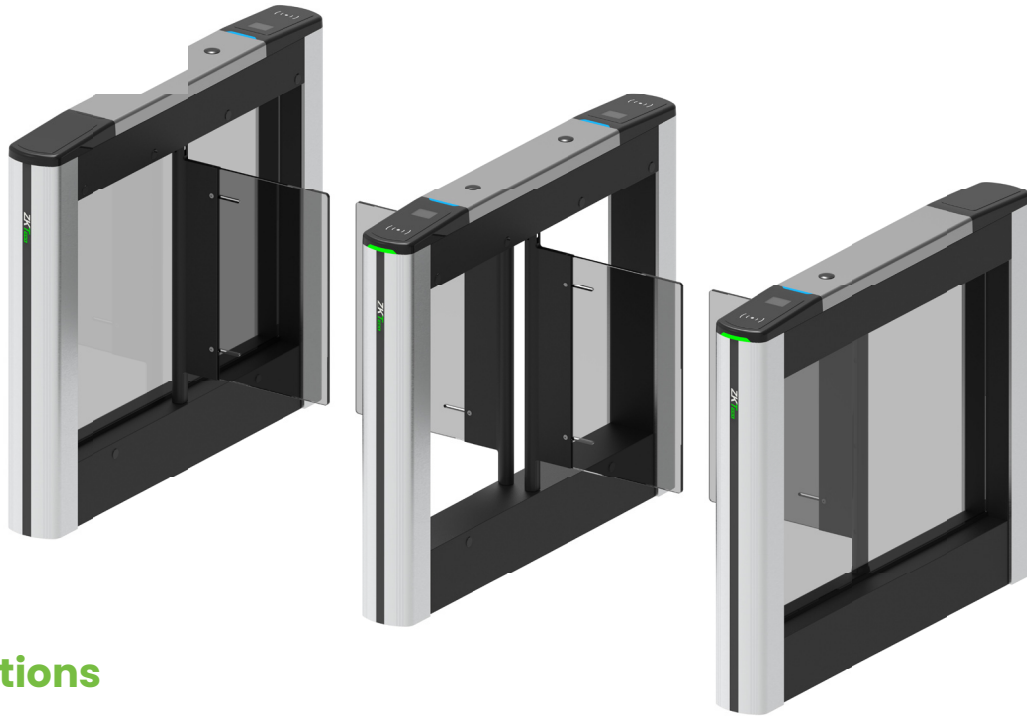
The Saturn Plus Series has been upgraded with a notable feature: the addition of six pairs of infrared sensors for dual pinch protection. It ensures enhanced safety and improved obstacle detection. Also, the authentication area is enhanced with 2.5D tempered glass for scratch resistance.

Saturn Plus Series maintains its multi-authentication flexibility as before, with facial, QR code and RFID card verification. Additionally, the removable pedestal design makes installation easier.



Safety and Security

Safety features include a swing arm with the upper edge is more than 800mm from the ground and the lower edge is less than 200mm, allowing normal operation even when submerged in water up to 800mm, effectively preventing unauthorized crossings. Additionally, the Saturn Plus Series is fortified with 6 pairs of infrared sensors for double anti-crushing protection and a leakage protection switch to protect against electrical hazards.



Specifications

Model	Saturn-S1000 Plus	Saturn-S1200 Plus
Audio Indicator	Internal speaker	
Visual Indicator	Top LED indicator: Blue=Door closed/stand by Green=Door opening Red=Door closing/alarm	Side LED indicator Green=Lane available Red=Lane unavailable
Display	NA	
Lane Type	Single lane	Dual Swing (for additional lane)
Lane Width	600mm (Standard) Max 900mm (Optional)	
Barrier Movement Type	Swing	
Motor	DC brushless motor	
Movement Speed	Average 1s per movement (Adjustable open/close timing)	
Movement Accuracy	NA	
Clutch	NA	
Lid Material	Stainless steel & Polycarbonate	
Lid Options Authentication Methods	Streamlined under mount options: QR Code / RFID Surface mount option: Facial Authentication	
Chassis Material	Cold-rolled steel SPCC (GB700) (Chassis Body) / Aluminum Alloy (Gate Column)	

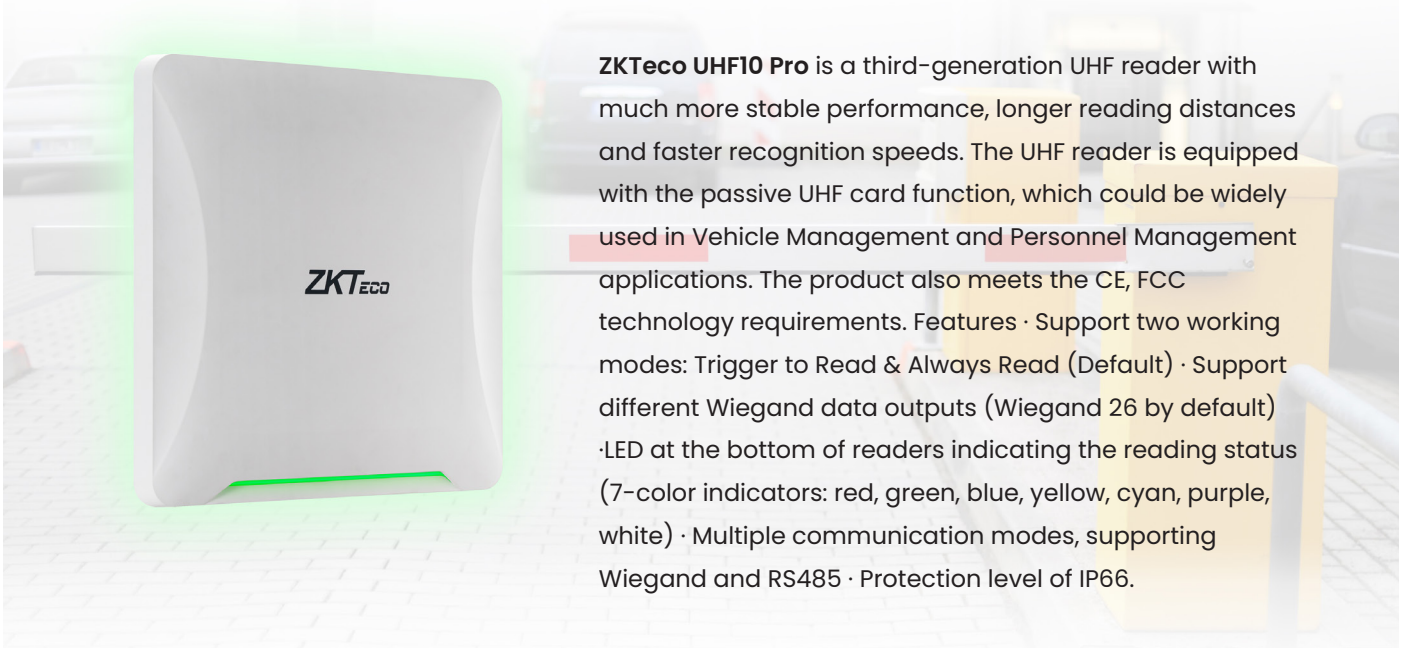
Chassis Colour	Silver(standard), Gray(optional), Brown(optional)	
Barrier Material	Light gray transparent acrylic(555*300mm)(standard)/Light gray transparent acrylic(555*375mm)(optional)	
IR Sensors	6 pairs	
Motherboard Function	System configuration, access control	
Motherboard Communication	Fire alarm port (relay)*1, RS485 port*1,	
Controller	Not equipped, allowing optional from C3/InBio Series or customization.	
Credential Options	Under mount RFID reader: (support model: Pro ID Series, KR Series) Under mount fingerprint reader: FR1200/FR1500S	
Flow Rate	Facial Authentication: 15 passengers per minute QR Code: 30 passengers per minute RFID: 35 passengers per minute	
Accessibility	Adult, children(with care), Disability(with care)	
Power Supply	110V / 220V $\pm$ 10% AC @50Hz/60Hz	
Power Rating	10VA(Standby) 40VA(Operation)	
Fire Signal	Input for voltage free contact	
Noise Level	Less than 60dB	
MTTR	Less than 60 minutes	
MCBF	3 million	
Weight	50kg	30kg
Dimension (L*W*H)	1200 * 150 * 1020 mm	
Dimensions With Packing(L*W*H)	Carton(standard): 1265*220*1070 mm(2 boxes) Wooden box(optional): 1300*480*1224mm(1 box)	Carton(standard): 1265*220*1070mm(1 box) Wooden box(optional): 1300*260*1224mm(1 box)
Operating Temperature	-30 °C to 70 °C	
Operating Humidity	5% to 90% RH (Non-condensing)	
Certifications	CE, FCC	
Ingress Protection Rating	IPX4	
Supported Software	ZKBio CVAccess / ZKBio CVSecurity (Depends on equipped access controller)	
Safety Features	Voltage free contact input for fire alarm fail state automatic swing barrier open during power off	
Security Features	Anti-tailgating, anti-pinch	
Product Delivery	Pre-assembled	
Application Environment	Indoor / outdoor (if sheltered)	
Site Preparation	Flat & level finished floor (base plate in options for unfinished floor)	
Security Level	Low	
Emergency Mode	Support (swing barrier open automatically)	
Packing Material	Carton(standard) / Wooden(optional)	



Parking Equipment

UHF Reader for Parking Access

ZKTeco UHF 10 Pro



ZKTeco UHF10 Pro is a third-generation UHF reader with much more stable performance, longer reading distances and faster recognition speeds. The UHF reader is equipped with the passive UHF card function, which could be widely used in Vehicle Management and Personnel Management applications. The product also meets the CE, FCC technology requirements. Features · Support two working modes: Trigger to Read & Always Read (Default) · Support different Wiegand data outputs (Wiegand 26 by default) · LED at the bottom of readers indicating the reading status (7-color indicators: red, green, blue, yellow, cyan, purple, white) · Multiple communication modes, supporting Wiegand and RS485 · Protection level of IP66.

Specifications

Model	UHF5E Pro & UHF5F Pro	UHF10E Pro & UHF10F Pro
Reading Distance	2 to 8 meters (Hand held test) (Actual scenario test is around 4m)	10 to 20 meters (Hand-held test) (Actual scenario test is around 8m)
Antenna Gain	9dBi	12dBi
Dimensions (mm)	308.5 * 308.5 * 67.5	445 * 445 * 67.5
Weight	1.8kg	3kg
Power	1.2 - 4.2W	1.2 - 4.5W
Frequency	E: 865MHz - 868MHz F: 902MHz - 906MHz (adjustable)	
Communication Interface	Wiegand; RS485; USB configuration parameters (Wiegand, RS485 requires one of two options)	
Interface Protocol	EPC global UHF Class 1 Gen 2 / ISO 18000-6C	
Working Mode	Read Always (Default) and Read by Trigger	
Output Power	19dBm - 30dBm	
Protection Level	IP66	
Working Voltage	DC 9-15V	
Working Temperature and Humidity	-20°C - 65°C; <85%	
Storage Temperature and Humidity	-20°C - 80°C; <85%	
RS485 Communication	Optional baud rate (9600, 19200, 38400, 57600, 115200); the default is 115200	



Touchless & Cashless for Seamless Smart Parking

TimeTec Smart LPR can read car plate numbers to the highest accuracy, up to 99.8% for standard car plate number, to achieve a ticketless, cashless, and touchless experience for casual and season parking. TimeTec Smart LPR can be integrated with multiple payment methods, for instance, eWallet Direct for seamless parking, the parking fee is auto deducted from the user's eWallet when exiting the parking site; or scan QR for online payment, or APM Autopay Machine before exit, or Payment (Exit TPK) for TNG card or credit/debit card payment at the exit lane.

- **MACHINE LEARNING**

Embedded with deep learning technology that constantly improves reading accuracy.

- **TOUCHLESS PARKING ACCESS**

Hands-free when entering and exiting parking sites.

- **MULTIPLE PAYMENT METHODS**

Support credit card, debit card, eWallet, FPX, TnG Card, etc.

- **ANALYTIC DASHBOARD**

Real-time analytics improves management efficiency.

- **MULTIPLE LOCATIONS**

Centralised management and reporting improves productivity

- **VALIDATION FEATURE**

Promo codes made easy, suitable for shopping malls, hotels, convention halls, etc.

- **DATA LIBERATION**

Liberate data flow to build a better ecosystem for smart building.

- **TIMETEC EWALLET DIRECT PARTICIPANTS**

Touch n' Go, Setel, more to onboard.

- **AVAILABLE BACKUP PAYMENT METHODS**

Auto Pay Machine, Touch n' Go card and Credit/Debit Card.

- **TIMETEC PARKING ANALYTICS**

Comprehensive and interactive analytics charts to improve management efficiency.

- **NEXT ACTIVITIES**

Visitor management, security, access control, advertisement, liberating data flow to build a better ecosystem for smart buildings.

- **ONE-STOP PMS**

Consolidate all casual parking, season parking, enforcement and valet parking modules.

- **LPR MODELS**

Multiple LPR models – L series, M series, H series and sub-series – to choose from.

- **E-INVOICE READY**

e-Invoice compliance and direct links with LHDN MyInvois Portal.

- **JPJ ePLATE**

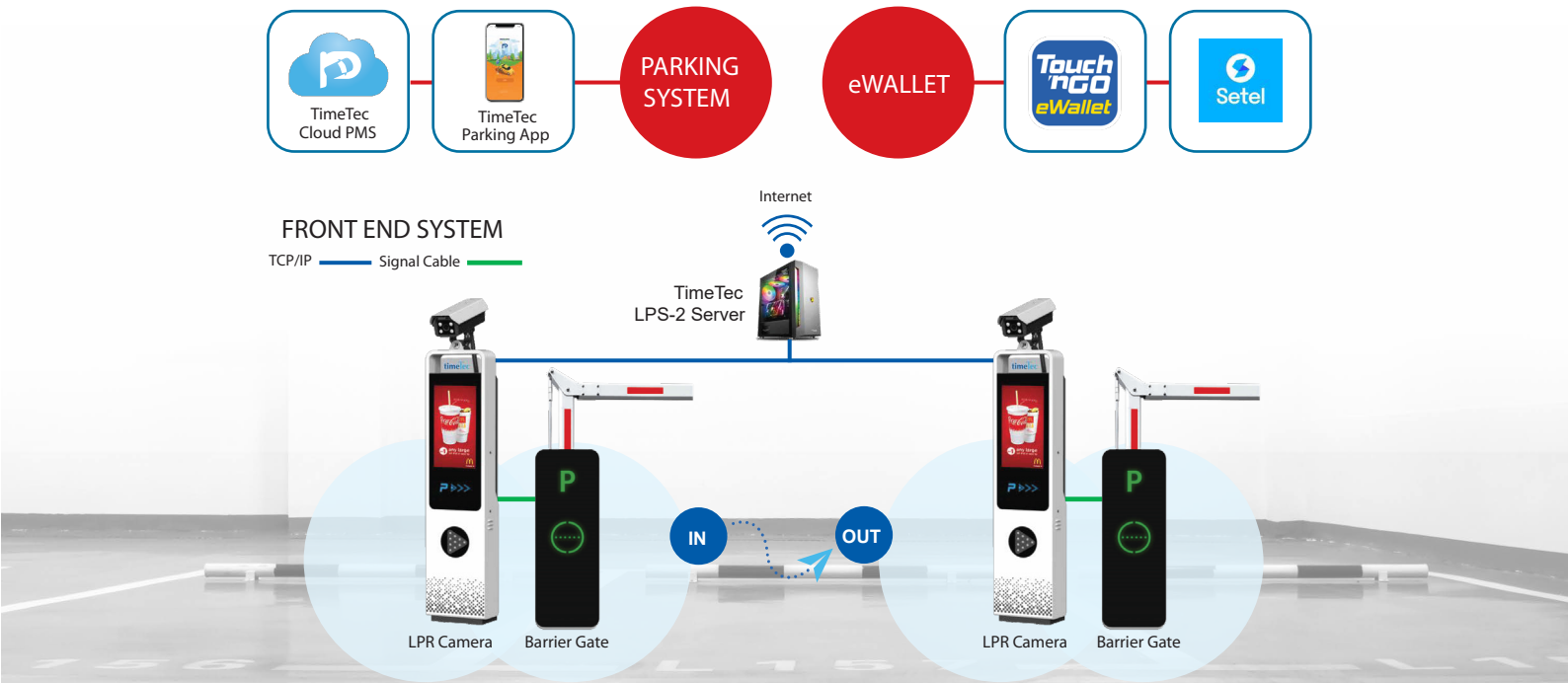
Support JPJePlate with 99.9% accuracy.



System Diagram 1: LPR with Multiple Payment Methods



System Diagram 2: eWallet Direct



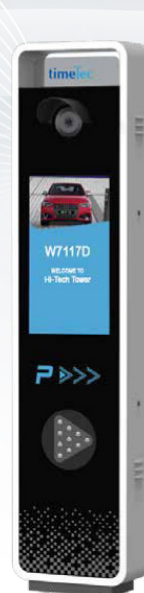
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Smart LPR Parking

L Series



H2 Series



H3 Series



MODEL	L Series	H2 Series	H3 Series
CAMERA	V Model	VA Model	V Model
Camera Housing	Yes	No (Embedded module)	Yes
Image Sensor	1/2.8" starlight-level CMOS	1/2.8" starlight-level CMOS	1/2.8" starlight-level CMOS
Max Resolution	2592 x 1944 (5MP)	2592 x 1944 (5MP)	2592 x 1944 (5MP)
Min. illumination	Color: 0.01Lux	Color: 0.01Lux	Color: 0.01Lux
Shutter Speed & Lens	0-1ms or customized (2.8~12mm lens)	0-1ms or customized (2.8~12mm lens)	0-1ms or customized (2.8~12mm lens)
Image Setting Video	Saturation, Brightness, Contrast, image "ip, gain, exposure time	Saturation, Brightness, Contrast, image "ip, gain, exposure time	Saturation, Brightness, Contrast, image "ip, gain, exposure time
Compression	H265/H264/MJPEG/intelligent detection structured data output	H265/H264/MJPEG/intelligent detection structured data output	H265/H264/MJPEG/intelligent detection structured data output
Picture Format & Analytic	JPEG with configurable quality, Support LPR	JPEG with configurable quality, Support LPR	JPEG with configurable quality, Support LPR
LPR Accuracy	99.80%	99.80%	99.80%
Comprehensive Capturing Recognition Rate	~99.99%	~99.99%	~99.99%
Working Temperature & Humidity	-25°C to 70°C, 90% or less (non-condensing)	-25°C to 70°C, 90% or less (non-condensing)	-25°C to 70°C, 90% or less (non-condensing)
Network Interface	1 channel 10/100Mbps adaptive RJ45	1 channel 10/100Mbps adaptive RJ45	1 channel 10/100Mbps adaptive RJ45
Communication Interface	IO output: 2 channel, IO input: 4 channel, RS485: 1 channel	IO output: 2 channel, IO input: 4 channel, RS485: 1 channel	IO output: 2 channel, IO input: 4 channel, RS485: 1 channel
Extra Deep Learning Technics	2 million starlight imaging effect, dual core processor CNN acceleration	2 million starlight imaging effect, dual core processor CNN acceleration	2 million starlight imaging effect, dual core processor CNN acceleration
LPR Algorithm Supports	Malaysia, Singapore & Thailand Car Plates	Malaysia, Singapore & Thailand Car Plates	Malaysia, Singapore & Thailand Car Plates
Power Supply	Support 9 ~ 15V DC, standard 12V/2A	Support 9 ~ 15V DC, standard 12V/2A	Support 9 ~ 15V DC, standard 12V/2A
HOUSING PARAMETERS			
Resolution	F3.75, 64*64 Dots	LCD 1366*768 (18.5")	LCD 1366*768 (18.5")
Color	Red/Green	Full Colour	Full Colour
Input Power	AC110/220V +/- 10% 50/60Hz (With built-in power adapter)	AC 220V +/- 10%	AC 220V +/- 10%
Working	Voltage DC5V	12V/2A	12V/2A
Max Power	10W	60W	60W
Stand Size	60*1200mm	1450 x 333 x 150mm (height x width x thickness)	1450 x 333 x 150mm (height x width x thickness)
Working Temperature	From 40°C to +80°C	From 20°C to +60°C	From 20°C to +60°C
IP Rating	IP42 Dustproof & waterproof function	IP54	IP54
Barrier Open	On Board	On Camera	On Camera
BODY HOUSING			
Design & Material	Bare Pole, epoxy powder coated	Designed housing, epoxy powder coated	Designed housing, epoxy powder coated
Protection Rate	IP65	IP65	IP65
Fill Light	Option	Standard	Standard
PRICING			
Indication	★	★★	★★



timeTec TPK-2

Ticketless Kiosk Solves It All

The slim and weatherproof TimeTec Parking Kiosk, TPK-2 is designed to withstand extreme indoor and outdoor environments for long-lasting use, and it is a sophisticated parking machine for operators/building owners to ensure safe round-the-clock collection of parking fees. TPK-2 supports Touch 'n Go card, credit/debit cards for cashless payment.

TPK-2 has been seamlessly integrated with the cutting edge cloud technology of TimeTec Parking system, making it suitable for both casual and seasonal parking, and across multiple parking sites. It provides a better parking experience for users, which increases parking revenue for building owners.

Waterproof IP65

Outdoor-ready. Withstand heavy rain and extreme high temperature

4G Communications

4G broadband, provides capabilities defined by ITU in IMT Advanced

Multiple Cashless Payment Methods

TnG card, Credit/Debit card, reduces the cost and pilferages in cash handling

TimeTec Parking System

A comprehensive parking system to cater to casual and season parking users for multiple sites

Ticketless

Cuts costs, promotes sustainability, smooths traffic flow, and eliminates misplaced-ticket issues.

Multiple Parking Methods

Support TnG card, Credit/Debit card, Mifare Card and QR Code

Intercom (option)

IP microphone and a speaker for voice communication during emergency as option

PCI-DSS Compliance

Security standard for Visa, Master and Debit card transactions, end-to-end advanced encryption

Mobile App

Supports Android and iOS TimeTec Parking mobile App.

timeTec

TPK-2

MODEL

SURFACE FINISHING

TYPE OF SCANNER

READER

DIMENSION (L X W X H), mm

WEIGHT

MICROPROCESSOR

COMMUNICATION

INTERCOM

OPERATING ENVIRONMENT

CONTACTLESS INTERFACE

CARD SUPPORT

PAYMENT METHOD

ENCRYPTION & SECURITY

READER SOFTWARE PLATFORM

SOFTWARE

SOFTWARE LANGUAGE

TPK-2

Slim, Epoxy Powder Coated

Non-Touch Colour Screen 3.2" Bright colour LCD screen

3 in 1 Reader (TnG, Credit Card/ Debit Card & Season Pass)

250(L) x 200(W) x 1320(H)

20kg

ARM9 Cortex - A5 600MHz Processor

• 512MB (Internal) • 256MB (RAM)

Support 4G, WIFI, LAN, 10/100Mbps Ethernet TCP, SSL, TFTP and most internet protocols, Supports 2 x USB (OTG and HOST), 2 x RS232 Serial up to 115200Kbps

Optional*

• Waterproof rating: IP65

• Temperature: -20°C to 60°C

• Humidity: 10% ~ 90%

• Power Supply: 12 VDC 3A com with Backup Battery

Supports ISO 14443 Type A, B and C Supports ISO 18092 Peer to peer NFC Supports EMVCo Level 1

MIFARE DESFire®, MIFARE Classic, MIFARE Plus®, MIFARE Ultralight® FeliCa, CIPURSE™, EMV® Contactless

Visa/Master Debit or Credit Card
Touch n' Go Card

DES, 3DES, AES, SHA, RSA, DSA, ECC, TRNG

Linux

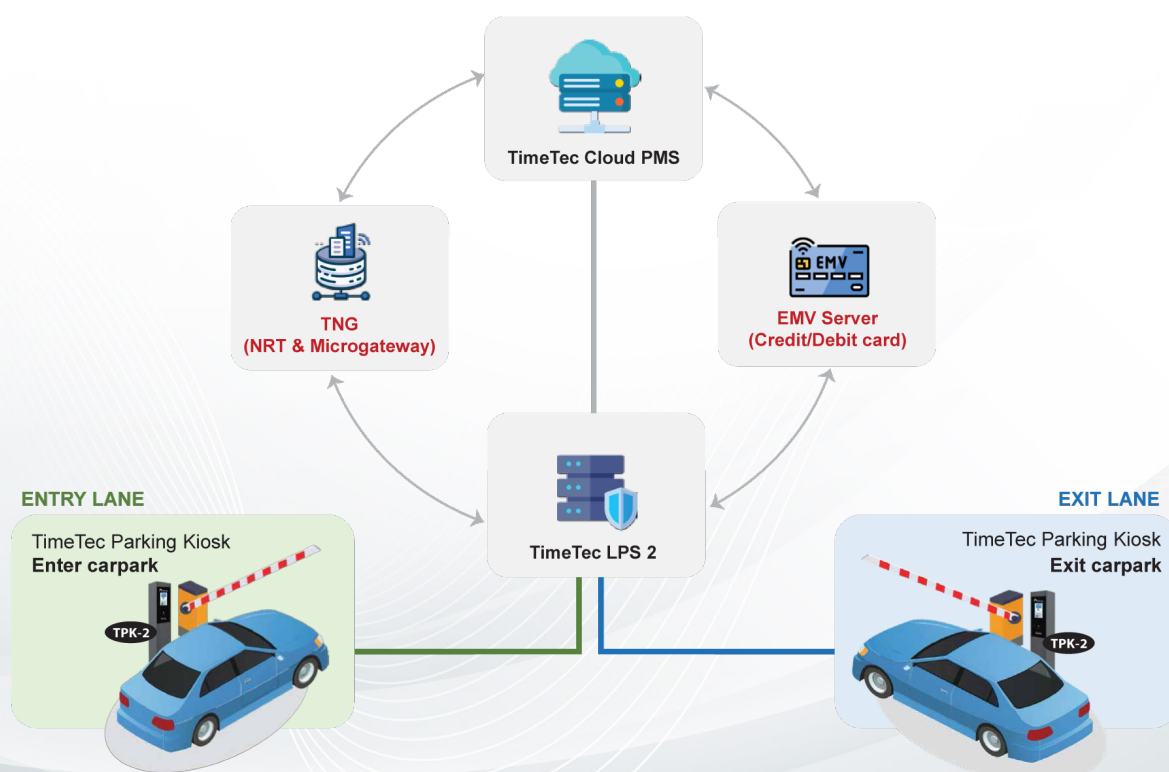
• Cloud system: TimeTec Parking System

• Mobile App: TimeTec Parking App for Android, iOS & Huawei

English, Malay, Chinese (Traditional), Chinese (Simplified), Spanish, Thai, Indonesian, Arabic, Vietnamese, Portuguese, Hindi, Japanese and Turkish



System Diagram



timeTec

APM-2

TimeTec Cashless Automated Payment Machine

The TimeTec Cashless Automated Payment Machine (APM-2) provides an alternative way for users to pay parking fees at sites using either a License Plate Recognition (LPR) system or a conventional ticketing system.

Users just need to insert the parking ticket/tap Mifare card ticket if ticketing system or type their car plate number on the screen at the APM-2, it automatically displays the exact parking fee which users have to pay before exiting.

TimeTec APM-2 is a cost-effective solution that combines modern and conventional parking and payment methods into one hybrid system. With the integration of the TimeTec Parking Management System at its backend, multiple payment channels are consolidated into a single report, simplifying the management of one or multiple parking sites for the owner.

MODEL	APM-2
MONITOR	
Size	19"
Display scale	16:9
Type	Capacitive touch LED
Touch response time	5ms
Touch Object	Finger, Pen, any conductive object
COMPUTER	
CPU	Intel Corei3 i5 i7/ RockChip3288
System	Windows/Android
RAM	2G/4G/8G
ROM	32G/64G/128GB SSD
Interface	USB*4,RS232*2,RJ45*1
Frequency (H/V)	30~80KHz / 60~75Hz
DISPLAY	
Resolution	1920 x 1080
Brightness	250 cd/m2
Contrast ratio	1000:1
Display area	337.9*270.3mm
Light transmit ratio	85%
View angle	170°/ 160°
MORE INFO	
Package dimension	1580mm×520mm×475mm
Power Type	external power adapter
Input voltage	100-240 V AC, 50-60 Hz
Working environment	Operating temperature: -10~50°C Storage temperature: -20~60°C Working humidity: 10%~90% Storage humidity: 10%~90% LED Backlight Life(Min): 30,000 hours





timeTec UHF 200HC

Ticketless Kiosk Solves It All

TimeTec UHF 200HC (TID) is an RS232 reader specially designed to read the signal from the embedded RFID chip of the JPJ ePlate or from the RFID sticker on the windshield, facilitating seamless vehicle identification and integration with TimeTec Smart Parking System to cover casual, season, valet parking, etc.

timeTec

With a combination of the TimeTec UHF 200HC installed at the entry and exit points, along with the TimeTec Parking Management System (PMS), you can create a perfect hands-free smart parking system for car park users with TimeTec eWallet Direct payment method. The TimeTec UHF 200HC has a long lifespan, comes with a waterproof casing, and is suitable for outdoor installations, working efficiently even in adverse weather conditions.



Long Distance Detection

The reading range extends up to 10 meters (adjustable).

CE & FCC Certified Standards

The TimeTec UHF 200HC is CE and FCC internationally certified, ensuring it is safe for global installation.

Integration with eWallet Direct System

Setel, TnG, and more, for a complete hands-free experience.

Two Working Modes

The default mode is 'always read,' but it can be configured to 'trigger read' as needed.

SIRIM Certified (Malaysia)

SIRIM certified for use in the Malaysian market.

Integration with Exit Payment Kiosk

Offering optional payment methods with TnG cards and credit/debit cards.

Waterproof Casing

IP65 dust tight & waterproof standard.

Perfect Parking Solution

Integrated with controllers and boom gate systems to provide a seamless parking system.

Wiegand Optional

Anti-clone RFID feature for residential properties to improve safety.

timeTec

UHF 200HC

PHYSICAL CHARACTERISTICS

Dimensions (L × W × H), mm
Weight

260 × 40 × 260
1.2KG

RFID CHARACTERISTICS

Air Protocols

EPC Class 1 Gen 2 (ISO 18000-6C)

Frequency

919 – 923 MHz

Antenna gain

≤ 1.3:1

Antenna Ports

One 9 dBi circularly polarized antenna

Output Power

5dBm–30dBm (±1dBm) adjustable

Work Mode

Fixed / hop frequency optional

RFID PERFORMANCE

Max Read Rate

≥ 400 tags/s

Max Tag Read Distance

≥ 10m, 9 dBi antenna

COMMUNICATION INTERFACE

Communications

UART serial port (RS232), Baud rate 9600 ~115200bps

Connector Interface

RJ45 (10/100 Base-T Ethernet), RS-232, GPIO 4Pin(GND RND O1 IN1)

POWER SUPPLY

DC Supply

DC 12V/3A

Protection level

IP65

WORKING ENVIRONMENT

Operating Temp

-20° C to + 60° C

Storage Temp

-40° C – + 80° C

Humidity

5 – 90% non-condensing (+25° C)

SHELL MATERIAL

Shell Material

Aluminum + PC

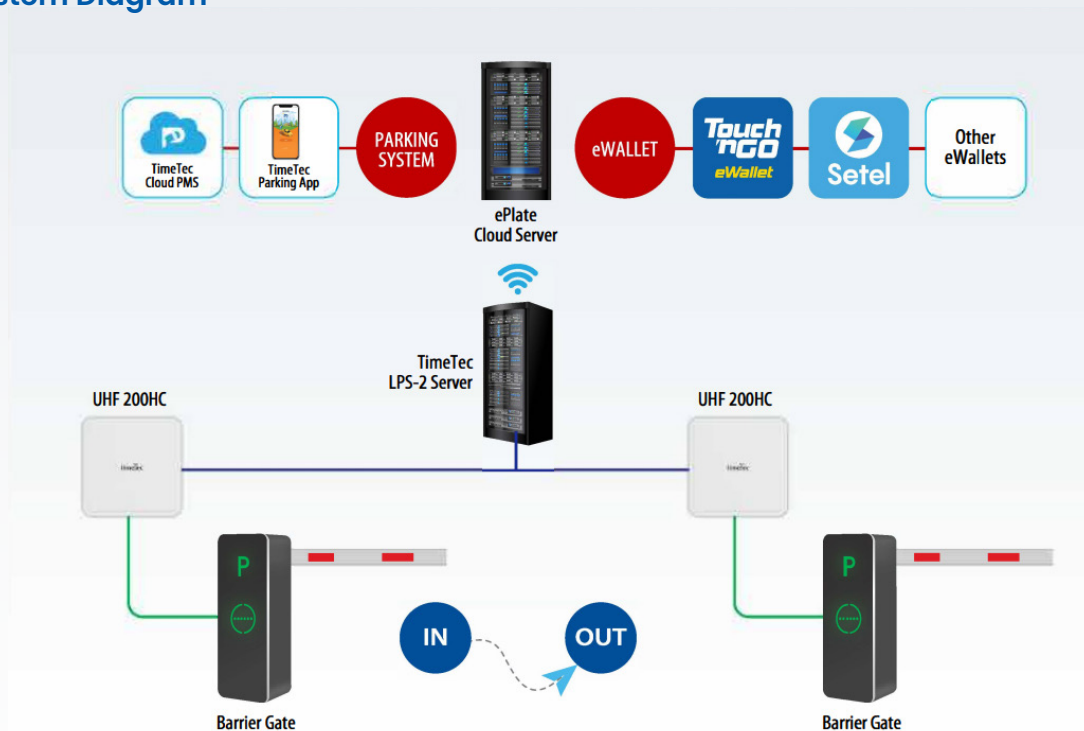
APPLICATION INTERFACE

Host API

C, C#/.NET, Java



System Diagram





timeTec

Video Parking Guidance System

TimeTec Integrated VPGS System

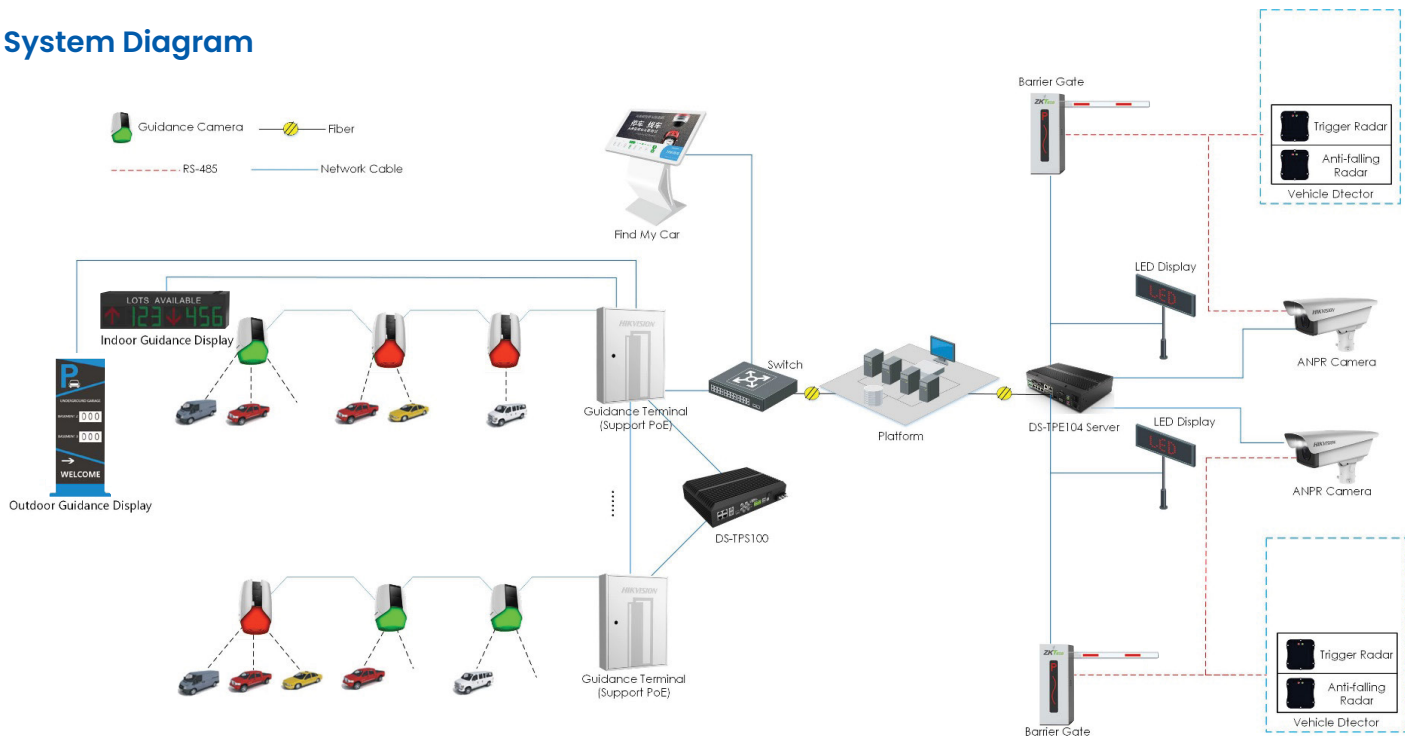
User Benefits



Carpark Owner Benefits



System Diagram



System Components



LPR Unit

- 2 MP, CMOS, 1920 x 1080, built-in LPR algorithm
- Integrated camera, housing, lens, power adaptor, supplement Lights
- Motorised lens
- Software one-key focus, easy debugging
- Built in whitelist, LPR identification support, barrier / gate control , audio output.



Control Terminal

- 4 Channels of lane access
- 4 x 10/100 Mbps Ethernet ports, 2 x 1000 Mbps Ethernet ports, dual NICs
- 2 x RS485 ports, 3 x RS232 ports
- 4 x Relay ports support barrier / gate control
- 1 x audio output
- 2TB HDD included



Barrier Gate

- Barrier type: high speed
- Lift-up speed: 1.6-2s
- Arm form: 3m, straight-arm
- Colour: red
- Arm moving direction: rightward
- Input power supply: 220V 50Hz
- Anti-failing



Loop Detector

- AC 220V
- 20 kHz to 170 kHz frequency range
- 100 ms reaction time
- < 5 m optimal loop connection
- Adjustable in 3 increments
- Wiring maximum length 200 meters, twisted at least 20 times per meter



Guidance Terminal

- Accesses up to 32 Guidance Cameras
- Integrates power supply, cabinet, indoor screen, kiosk and switch
- Wall-mounted design provides flexible camera access
- Video and image storage for up to 32 guidance cameras, 6 HDD bays



Searching Car

- 22-inch LCD, Capacitive touch screen
- "Find my car" function
- Displays parking space info, quickest route to vehicle, and a parking space images
- Advertisement display when on Standby



E&E Outdoor LED Display

- Four lines of text, LED outdoor Display
- Integrates with speaker
- LED Brightness: 1,200 cd
- Colours: Red, yellow, green
- Pixel Resolution: 64 x 64
- Dot Pitch: P4.75
- Dimensions: 364 x 484 x 60mm



Entrance / Exit Controller

- Entrance, HDD not included
- Supports chat, no card output, support LED audio remind,
- Supports charging and accepting car when system offline



Guidance Camera

- HD 1.3 MP and 3 MP camera, single/dual lens options
- Integrated with indicator light, up to 7 colours can be configured
- Covers 1 – 6 parking bays
- Built-in iBeacon module (optional)
- Three external lights can be extended
- Hikvision POE cabling



Deep Learning Terminal

- Accesses up to 500 parking bays
- Linux operating system
- Based on deep learning algorithm, two steprecognition of license plates and parking bays
- 1 TB HDD
- Recognition of Brand and Colour



Indoor Guidance Display

- Indoor one, two, or three-direction indicator
- Single-colour display
- Supports RS-485 and Network Transmission



timeTec

JnP Mark 5 Barrier Gate

Robust and Affordable

The JnP Mark 5 Telescopic Arm Barrier Gate is designed to optimize traffic flow and minimize congestion, particularly during peak hours. This article explores the key features and functionalities of this innovative gate system.

Adjustable Opening Speeds for Different Traffic Needs

The JnP Mark 5 offers adjustable opening speeds to cater to varying traffic volumes:

- 3 meters to 3.5 meters: Opens in 1.5 seconds, ideal for steady traffic flow •
- 3.6 meters to 4.5 meters: Opens in 3 seconds, accommodating a moderate increase in traffic •
- 4.6 meters to 6 meters: Opens in 6 seconds, suitable for handling large surges in traffic volume •

This adjustability ensures efficient throughput while reducing congestion during peak periods.



REDUCED MAINTENANCE COSTS

Incorporates a DC brushless motor, renowned for its low maintenance requirements.

DURABILITY

Proven > 5 million times uplift operation.
Brushless motors are known for their extended lifespan, reducing replacement costs.

IMPROVED VERSATILITY WITH NLS POSITIONING

Next Level System (NLS) positioning, enhancing accuracy and stability during operation.

FASTER OPENING AND CLOSING SPEEDS

Achieves opening and closing speeds between 1.5 and 6 seconds, depending on the arm extension.

ENERGY EFFICIENCY

DC brushless motors consume less energy compared to traditional AC motors, leading to lower operational costs.

SWITCHABLE ARM

A switchable arm that can be configured for left- or right-side opening, providing greater flexibility in various installation scenarios.

timeTec

JnP Mark 5 Barrier Gate

TECHNICAL DATA

Working temperature	-35° to +85°C
Power supply	DC24V
Speed	1.5s to 6s
Rated power	140W
Remote distance	100m
Max arm length	6m

SAFETY GUARANTEE

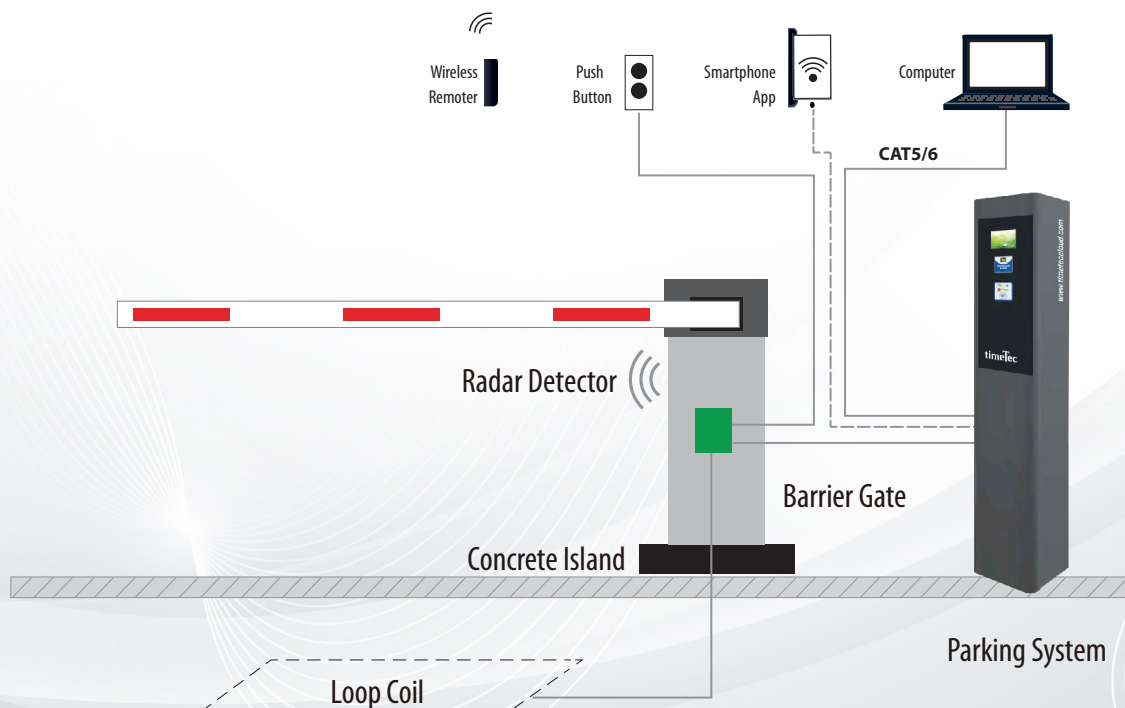
Anti-collision	Arm will automatically reverse to vertical position if hit obstacle
Arm swing out	Arm will swing out when hit by car, avoid further damages on vehicle and arm
Loop detector	photocell connection port

SPECIAL FUNCTION

Speed adjustable	1.5sec – 6sec
Arm direction change	Left to Right
Backup battery	solar panel optional
Optional	220V/110V/24V DC optional
Communication interface	Inbuilt RS485



System Diagram





AK1110 Parking Barrier

Durable & Robust

The AK1110 parking barrier is designed specifically for underground parking lots, ensuring smooth operation and safety. It offers switchable arm direction for flexible installation, adjustable opening/closing speed for optimal traffic flow, and an optional LED light for clear gate status indication. A DC direct drive motor minimizes gate arm drop, and anti-crush safety technology protects pedestrians and property.



OPTIMIZED FOR UNDERGROUND USE

The AK1110's design ensures it functions flawlessly within underground parking environments.

SWITCHABLE ARM DIRECTION

Choose between right-hand (standard) or left-hand gate arm positions to best suit your layout.

ADJUSTABLE OPENING/ CLOSING SPEED

Fine-tune the arm's opening and closing speed for optimal traffic flow.

OPTIONAL LED LIGHT

Enhance visibility with an LED light on the gate arm. The light switches between green for opening and red for closing (optional).

DC DIRECT DRIVE MOTOR

This motor minimizes gate arm drop, ensuring consistent and reliable operation.

ANTI-CRUSH SAFETY

Describe the anti-crush safety mechanism accurately, such as sensors that detect obstructions and stop the gate to prevent injuries and damage.

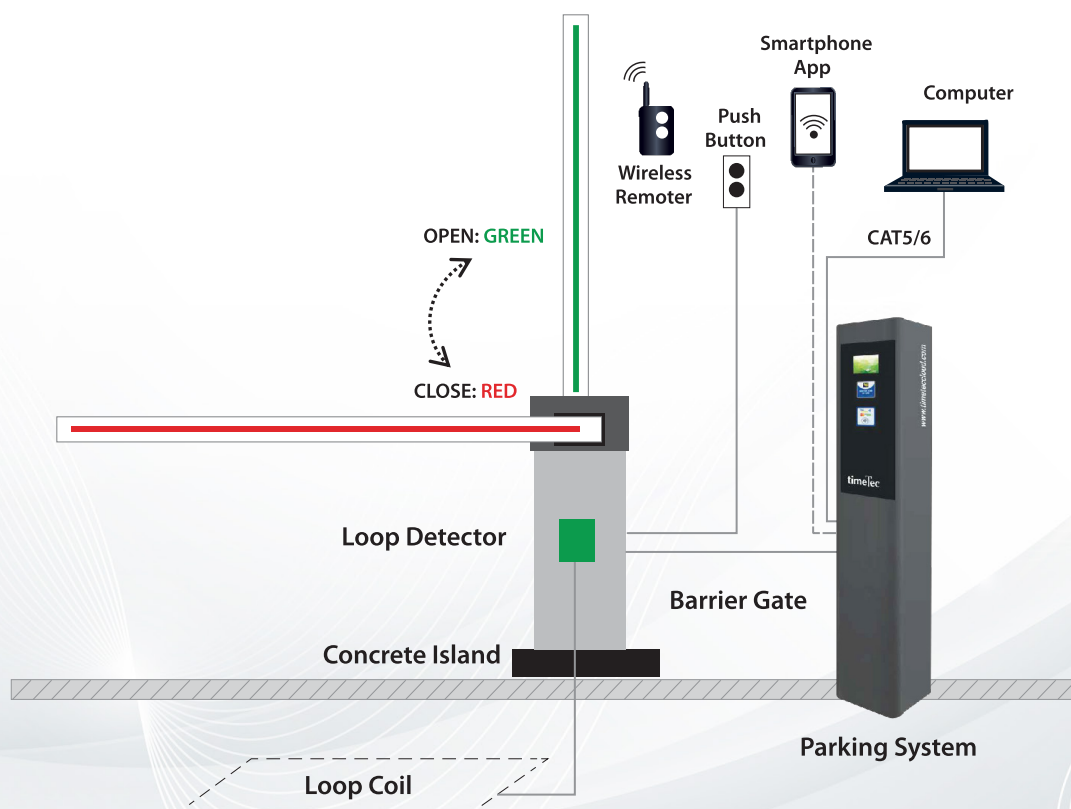


AK1110 Parking Barrier



Input	AC 100~220V 60Hz/50Hz
Power	Standby 1W, Operation 100W, LED Gate arm is max. 750mA
Operation time	Gate arm opening / closing speed: 1.5~3 sec.
Size	310(W) × 270(D) × 1020(H)
Weight	45 kg (excluding 3 kg gate arm)
Temperature	-20°C to +50°C
Humidity	+10% to +80% (non condensing)
Motor	Output 100W / DC24V
Deceleration ratio	100:1
Drive system	BLDC motor direct drive and BLDC control
Case Material	EGI steel plate (cabinet 1.6T / base 2.0T)
Gate Arm	Aluminum Bar 3m (Straight / Folding)

System Diagram



UNV IP Surveillance



Universal Block Storage (UBS)

Ensure the safety of data while enhancing the efficiency.



EasyStar Technology

Radically reduce blurring, deliver clear, bright and colorful image.



Ultra 265 Compression Technology

Reduce up to 95% bandwidth and storage space without compromise on image details.

Products from Easy series are most popular choices for entry-level applications such as retail. L series IP cameras, B series NVRs, Ultra 265 PoE kits and Navigator PTZ dome cameras are included. All of them are featured with Ultra 265 compression technology which is exclusively released by Uniview. In addition, they provide excellent performance with affordable price. Meanwhile, Easy series are easy to install and maintain, hence can be utilized anywhere. Easy family products are most cost-effective options for a residence and small business application.



PixelSense Technology

PixelSense is Uniview's patented technology for switching Day & Night mode of IP camera. The traditional hardware switch is completed by an optical coupler which detects the illumination of the place where the camera is installed. However, if the illumination of installation environment is different from the real shooting scene's, the Day & Night switch might be triggered incorrectly. UNV PixelSense technology is more accurate. It detects the shooting scene's illumination (RGB) by a sensor and drives the IR-CUT to switch Day & Night mode. Besides, because PixelSense technology doesn't rely on a hardware optical coupler, it can reduce the failure rate.

Updated U-code Technology

U-code is a deep video compression technology which can reduce bitrate by up to 90% to save bandwidth and storage space. U-code technology separates moving target and static background with different codec and adjusts GOP dynamically, meanwhile keeping good image quality. U-code supports all triple streams of IP cameras and changes frame rate dynamically by video content to reduce more bitrate.

Easy to Use/Maintain

Easy series IP cameras support one-click firmware upgrade, upgrade via cloud, and plug & play for installers and end users. During troubleshooting, it's easy to output a diagnosis log with one click. Easy series IP cameras can also detect the network connection regularly; once disconnection is detected, the IP camera will reset the network module inside the camera or reset the camera to recover.

Reliability at Design and Tests

From selective components to designing product reliability

during R&D, from process control during production to a full-process traceability system, Uniview is dedicated to pursuing high quality. All sensor boards in UNV cameras are designed as 2 mm thickness to avoid defocus by deformation while used in extremely harsh environments.

Navigator PTZ Dome Cameras

Due to highly accurate stepping motors and fast pan speed, Navigator PTZ dome cameras move stably and smoothly; hence stable video can be produced without jerk. There are 1024 presets which can be easily configured as a cruise. Moreover, a built-in heater around the camera's window can remove snow and fog on the lens automatically. Those remarkable functions reduce unnecessary operations and provide better user experience.

Long Distance PoE

Even though the camera's location is hundreds of meters away from the NVR, users can still easily connect the camera directly to the NVR for both power supply and video streaming. The NVRs in Easy Series support up to 250 meters long-distance PoE.

UBS Storage System

UBS is Uniview's patented technology for storage. Traditional NVR manufacturers use a general file system which is not optimized for video-storage applications. By operating directly on the HDD to improve I/O efficiency and using small block as the minimum unit, UBS technology can reduce the risk of data loss in case of system malfunction. Besides, the UBS storage system also supports disk roaming and precise playback, which make surveillance business much easier.

UNV

IPC324LB-ASF28K-A

4MP Fixed IR Dome Network Camera



CAMERA

Max Resolution	4 MP
Sensor	1/3.0" CMOS
Min. Illumination	Colour: 0.01 lux (F2.1, AGC ON), 0 lux with IR on
Day/Night	IR cut filter with auto switch (ICR)
Shutter	Auto/Manual, 1~1/100000s
Adjustment Angle	Pan: 3° ~ 360°, Tilt: 0° ~ 68°
S/N	> 52 dB
WDR	DWDR

LENS

Focal Length	2.8 mm
Iris Type	Fixed
Iris	F2.1
Field of View (H)	97.0°
Field of View (V)	52.2°
Field of View (D)	107.5°

DORI

DORI Distance (Lens)	2.8mm
DORI Distance (Detect)	63.0m(206.7ft)
DORI Distance (Observe)	25.2m(82.7ft)
DORI Distance (Recognize)	12.6m(41.3ft)
DORI Distance (Identify)	6.3m(20.7ft)

ILLUMINATOR

Supplemental Light	IR
Illumination Distance (IR)	30 m (98.4 ft)
Wavelength	850 nm
IR On/Off Control	Auto/Manual

VIDEO

Video Compression	Ultra 265, H.265, H.264
H.264 Code Profile	Baseline profile, Main profile, High profile
Frame Rate	Main Stream: 4MP (2560*1440), Max 25fps; 3MP(2304*1296), Max 25fps;2MP(1920*1080),Max 30fps

Video Bit Rate

U-code	128 Kbps to 6144 Kbps
OSD	Support(Main stream)
Privacy Mask	Up to 4 OSDs
ROI	Up to 4 areas
Video Stream	Support
IMAGE	Dual streams

White Balance

Auto, Outdoor, Fine tune, Sodium lamp, Locked,

Auto2

2D/3D DNR

Support

Normal, Flip vertical, Flip horizontal, 180°

N/A

Support

Support

Digital defog

Motion detection, Tampering alarm, Audio detection

Watermark, IP address filtering, Access policy, ARP

protection, RTSP authentication, User authentication,

HTTP authentication

AUDIO

Audio Compression	G.711U, G.711A
Audio Bitrate	64 Kbps
Two-way Audio	N/A
Suppression	Support
Sampling Rate	8 kHz

STORAGE

Edge Storage	Micro SD, up to 512 GB
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NETWORK

Protocols

IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, RTP, RTSP, RTCP, RTMP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, QoS, SSL/TLS, SMTP, SNMP

ONVIF (Profile S, Profile T), API, SDK

Up to 32 users. 3 user levels: administrator, common user and operator

Security

Password Protection, Strong Password, HTTPS Encryption, Export Operation Logs, Basic and Digest Authentication for RTSP, Digest Authentication for HTTP, WSSE and Digest Authentication for ONVIF

Client

Web Browser

UNV-Link, UNV-Link Pro, EZStation

Plug-in required live view: IE 10+, Chrome 45+, Firefox 52+, Edge 79+, Plug-in free live view: Chrome 57+, Firefox 58+, Edge 16+

INTERFACE

Audio I/O	N/A
Alarm I/O	N/A
Serial Port	N/A
Built-in Mic	Support
Built-in Speaker	N/A
WIFI	N/A
Network	1 × RJ45 10 M/100 M Base-TX Ethernet
Video Output	N/A

CERTIFICATION

CE-EMC (EN 55032, EN 61000-3-3, EN IEC 61000-3-2, EN 55035), FCC (FCC 47 CFR part 15 B)

CE LVD (EN 62368-1), UL/CUL (UL 62368-1, CAN/CSA C22.2 No. 62368-1)

CE-RoHS (2011/65/EU; (EU) 2015/863); WEEE (2012/19/EU)

IP67 (IEC 60529), IK10 (IEC 62262)

Protection

GENERAL

Power

DC 12V±25%, PoE (IEEE 802.3af)

Power Consumption

Max 5.0W

Power Interface

Ø5.5 mm coaxial power plug

Dimensions

161 × 63 × 62 mm (6.4" × 2.5" × 2.4") (L × W × H)

Weight

0.33 kg (0.73 lb)

Material

Graphene + Plastic

Working Environment

-30 °C to 60 °C (-22 °F to 140 °F), Humidity ≤ 95% RH (non-condensing)

Storage Environment

-30 °C to 60 °C (-22 °F to 140 °F), Humidity ≤ 95% RH (non-condensing)

Surge Protection

4 KV

Reset Button

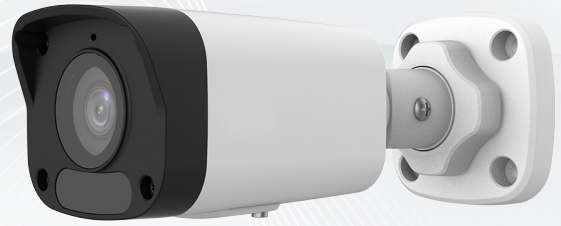
N/A

Web Client Language

1 Language: English

UNV IPC2124LB- ASF28(40)K-A

4MP Fixed IR Bullet Network Camera



CAMERA

Max Resolution

4 MP

Sensor

1/3.0" CMOS

Min. Illumination

Colour: 0.01 lux (F2.1, AGC ON), 0 lux with IR on

Day/Night

IR-cut filter with auto switch (ICR)

Shutter

Auto/Manual, 1 ~ 1/100000s

Adjustment Angle

Pan: 0° ~ 360°, Tilt: 0° ~ 90°, Rotate: 0° ~ 360°

S/N

>52 dB

WDR

DWDR

LENS

Focal Length

4.0 mm

Iris Type

Fixed

Iris

F2.1

Field of View (H)

79.0°

Field of View (V)

42.3°

Field of View (D)

85.1°

DORI

DORI Distance (Lens)

4.0mm

DORI Distance (Detect)

90.0m(295.3ft)

DORI Distance (Observe)

36.0m(118.1ft)

DORI Distance (Recognize)

18.0m(59.1ft)

DORI Distance (Identify)

9.0m(29.5ft)

ILLUMINATOR

Supplemental Light

IR

Illumination Distance (IR)

30 m (98.4 ft)

Wavelength

850 nm

IR On/Off Control

Auto/Manual

VIDEO

Video Compression

Ultra 265, H.265, H.264

H.264 Code Profile

Baseline profile, Main profile, High profile

Frame Rate

Main Stream: 4MP (2560*1440), Max 25fps;
3MP(2304*1296), Max 25fps; 2MP(1920*1080), Max
30fpsSub Stream: D1 (720*576), Max 30fps; 640*360, Max
30fps; 2CIF(704*288), Max 30fps; CIF(352*288), Max
30fps

Video Bit Rate

128 Kbps to 6144 Kbps

U-code

Support (main stream)

OSD

Up to 4 OSDs

Privacy Mask

Up to 4 areas

ROI

Support

Video Stream

Dual streams

IMAGE

White Balance

Auto, Outdoor, Fine tune, Sodium lamp, Locked,
Auto2

Digital Noise Reduction

2D/3D DNR

Smart IR

Support

Flip

Normal, Flip vertical, Flip horizontal, 180°

Dewarping

N/A

HLC

Support

BLC

Support

Defog

Digital defog

EVENTS

Basic Detection

Motion detection, Tampering alarm, Audiodetection

General Function

Watermark, IP address filtering, Access policy, ARP
protection, RTSP authentication, User authentication,

AUDIO

Audio Compression

G.711U, G.711A

Audio Bitrate

64 Kbps

Two-way Audio

N/A

Suppression

Support

Sampling Rate

8 kHz

STORAGE

Edge Storage

Micro SD, up to 512 GB

NETWORK

Protocols

IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, RTP, RTSP, RTCP,
RTMP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, QoS,
SSL/TLS, SMTP, SNMP

Compatible Integration

ONVIF (Profile S, Profile T), API, SDK

User/Host

Up to 32 users. 3 user levels: administrator, common
user and operator

Security

Password Protection, Strong Password, HTTPS Encryption,
Export Operation Logs, Basic and Digest Authentication for
RTSP, Digest Authentication for HTTP, WSSE and Digest
Authentication for ONVIF

Client

UNV-Link, UNV-Link Pro, EZStation

Web Browser

Plug-in required live view: IE 10+, Chrome 45+, Firefox
52+, Edge 79+, Plug-in free live view: Chrome 57+,
Firefox 58+, Edge 16+

INTERFACE

Audio I/O

N/A

Alarm I/O

N/A

Serial Port

N/A

Built-in Mic

Support

Built-in Speaker

N/A

WIFI

N/A

Network

1 × RJ45 10 M/100 M Base-TX Ethernet

Video Output

N/A

CERTIFICATION

EMC

CE-EMC (EN 55032, EN 61000-3-3, EN IEC 61000-3-2,
EN 55035), FCC (FCC 47 CFR part 15 B)

Safety

CE LVD (EN 62368-1), UL/CUL (UL 62368-1, CAN/CSA
C22.2 No. 62368-1)

Environment

CE-RoHS (2011/65/EU; (EU) 2015/863); WEEE (2012/19/
EU)

Protection

IP67 (IEC 60529)

GENERAL

Power

DC 12V±25%, PoE (IEEE 802.3af)

Power Consumption

Max 5.0W

Power Interface

Ø5.5 mm coaxial power plug

Dimensions

161 × 63 × 62mm (6.4" × 2.5" × 2.4") (L × W × H)

Weight

0.33kg(0.73lb)

Material

Graphene + Plastic

Working Environment

-30 °C to 60 °C (-22 °F to 140 °F), Humidity ≤ 95% RH
(non-condensing)

Storage Environment

-30 °C to 60 °C (-22 °F to 140 °F), Humidity ≤ 95% RH
(non-condensing)

Surge Protection

4 KV

Reset Button

N/A

Web Client Language

1 Language: English



Network Video Recorder



High Reliability

Higher I/O efficiency, secured data. Data anti-theft and accurate playback retrieval.



Ease of Use

Just connect cables and power on. No extra learning cost and manpower cost.



Ease of Maintenance

Cloud upgrade supports both NVR and IP camera. Emergency recovery tools: no more worries about device recovery.



Easy series does a good job in input and video storage of several IP cameras, the friendly design of device enclosure and software GUI help operator with better experience. Also, in Easy series, we can offer rich choices of different requirements, including plastic/metal shell, PoE/non-PoE model, 4/8/16/32 channels, and 1/2/4 HDD.



UNV

NVR308-X Series

Network Video Recorder



DECODING

Decoding Format Decoding Capability

Ultra 265, H.265, H.264
NVR308-16X: 2 x 12MP@30, 4 x 4K@30, 8 x 4MP@30, 9 x 4MP@25, 16 x 1080P@30
NVR308-64X: 2 x 12MP@30, 4 x 4K@30, 8 x 4MP@30, 9 x 4MP@25, 16 x 1080P@30, 32 x 960P@25, 36 x 720P@30, 64 x D1
NVR308-32X: 2 x 12MP@30, 4 x 4K@30, 8 x 4MP@30, 9 x 4MP@25, 16 x 1080P@30, 32 x 960P@25
G.711A, G.711U

Audio Compression NETWORK

Incoming Bandwidth Outgoing Bandwidth Remote Users Protocols

384Mbps
384Mbps
128
TCP/IP;P2P;UPnP;NTP;DHCP;PP-PoE;HTTP;HTTPS;DNS;DDNS;SNMP;SMT-P;NFS;RTSP;802.1x;IPv6

Browser (Plugin)

Windows: IE(IE10/11), Firefox(version 52.0 and above), Chrome(version 45 and above), Edge(version 79 and above)

VIDEO/ AUDIO INPUT IP Video Input

NVR308-16X: 16-ch NVR308-64X: 64-ch
NVR308-32X: 32-ch
1-ch

RCA Audio Input VIDEO/ AUDIO OUTPUT HDMI Output

HDMI1/HDMI2(HDMI audio output is not supported): 4K (3840x2160)/30Hz, 1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz
VGA: 1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz

VGA Output

RCA Audio Output Live View Display

1-ch
NVR308-16X: 1/4/6/8/9/16 NVR308-64X: VGA: 1/4/6/8/9/16/25/36, HDMI1/HDMI2: 1/4/6/8/9/16/25/36/64
NVR308-32X: 1/4/6/8/9/16/25/36
NVR308-16X: 3/4/5/7/9/10/12/16 NVR308-64X/NVR308-32X: 3/4/5/7/9/10/12/16/32

Corridor Mode Screen

TWO-WAY AUDIO

Two-way Audio SNAPSHOT FTP/Schedule/Event Snapshot

1-ch, RCA(Using the audio input and output)
NVR308-16X: 16-ch snapshot, up to 4K resolution
NVR308-64X: 64-ch snapshot, up to 4K resolution
NVR308-32X: 32-ch snapshot, up to 4K resolution

RECORDING

Recording Resolution

12MP/8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/D1/2CIF/CIF

Synchronous Playback in Local SMART VCA Detection by IPC

16-ch
Face Detection; Vehicle Detection; SIP(Intrusion Detection, Cross Line Detection, Enter Area, Leave Area); Ultra Motion Detection(UMD); Temperature Detection(Fire Detection, Smoking Detection, Temperature Measurement, Smoke and Fire Detection); People Counting(People Flow Counting, Crowd Density Monitoring); Video Metadata; Traffic Monitoring
Motor Vehicle Search; Non-Motor Vehicle Search; Human Body Search; General Search; People Counting Report
NVR308-16X: All channels (up to 8 images/s in total)
Face Detection, Vehicle Detection, Temperature

VCA Search

Smart by IPC

ALARM

General Alarm

Detection, SIP, UMD, Video Metadata, Traffic Monitoring
NVR308-64X: All channels (up to 24 images/s in total) Face Detection, Vehicle Detection, Temperature Detection, SIP, UMD, Video Metadata, Traffic Monitoring
NVR308-32X: All channels (up to 16 images/s in total) Face Detection, Vehicle Detection, SIP, UMD, Temperature Detection

Defocus Detection; Scene Change Detection; Object Left Behind; Object Removed; Auto Tracking; Motion Detection; Tampering; Human Body Detection; Video Loss; Alarm Input; Audio Detection

Alert Alarm

IP Conflict; Network Disconnected; Disk Offline; Disk Abnormal; Illegal Access; Hard Disk Space Low; Hard Disk Full; Recording/Snapshot Abnormal

GUI LANGUAGE

GUI Language

38 languages: Simplified Chinese, Traditional Chinese, English, Vietnamese, Thai, Turkish, Spanish (Latin America), Portuguese (Brazil), Spanish, Portuguese, French, German, Italian, Dutch, Polish, Czech, Hungarian, Slovak, Russian, Hebrew, Arabic, Ukrainian, Estonian, Bulgarian, Greek, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenia, Serbia, Korean, Japanese, Latvian, Lithuanian, Persian

HARD DISK

SATA Capacity

8 SATA Interfaces
Up to 12TB for each HDD(The maximum HDD capacity varies with environment temperature)
RAID 0, 1, 5, 6, 10

Disk Array Type EXTERNAL INTERFACE Network Interface

2 RJ45 10M/100M/1000M self-adaptive Ethernet Interface

USB RS485 RS232

Front panel: 2 x USB2.0; Rear panel: 1 x USB3.0
1

Alarm In Alarm Out eSATA

16-ch

4-ch

1

Power Output Power Supply Power Switch

12V

AC 100 ~ 240 V

Support

WORKING ENVIRONMENT

Working Temperature Working Humidity Power Consumption (without HDD)

-10 °C ~ 55 °C (14 °F ~ 131 °F)

≤ 90% RH (non-condensing)

≤ 25W

DIMENSIONS Weight(without HDD)

≤ 5.7Kg (12.57lb)

Dimensions CERTIFICATION Certification

442mm x 426mm x 89mm (17.4" x 16.8" x 3.5")

CE

CE; FCC; UL; RoHS; WEEE

EN 55032, EN 61000-3-3, EN IEC 61000-3-2, EN 55035

FCC

Part 15 Subpart B

DINSTAR

AI Telephony System

Core Telephony Hardware Features

Reliability and enterprise-grade performance:

- Scalable IP PBX Platform – Supports from small offices to multi-branch enterprises.
- HD Voice Quality & Low Latency – Ensures crystal-clear communication.
- Multi-Channel Connectivity – SIP trunking, analog lines, VoIP extensions.
- Unified Communications – Softphones, desk phones, mobile apps integration.
- High Availability & Security – Redundant architecture, encryption, and firewall protection.

TimeTec AI-Enhanced Features

Position the AI layer as what makes TimeTec different:

- AI Smart IVR (Interactive Voice Response)
Conversational IVR that understands natural language, not just keypad tones.
Reduces call routing frustration with intent recognition (“I want to check my bill” > auto-route to billing).
Supports multi-language voice interactions.
- AI Answering System
Acts as a virtual receptionist to answer FAQs (opening hours, directions, payment methods, etc.).
Provides 24/7 availability, even outside working hours.
Frees human agents to focus on complex, high-value tasks.
- Call Summarization & Transcription (optional value-add)
AI generates transcripts and summaries for compliance, training, and CRM integration.
- Sentiment & Intent Analysis
Detects caller mood and urgency for better service prioritization.
Provides real-time insights to supervisors.

Industry Applications

- Corporate Offices & SMEs – Centralized communication hub with AI receptionist.
- Hospitality & Property – Smart IVR for booking, concierge, and resident support.
- Customer Service Centers – Reduce queue time, AI pre-screens calls.
- Healthcare – Appointment booking, reminders, patient inquiries via AI calls.
- Smart Townships – Integrated with access control, parking, and resident services.

Benefits for Businesses

Frame advantages in terms that matter to your target customers:

- Efficiency & Cost Savings – Reduce reliance on human agents, cut down waiting time.
- Improved Customer Experience – Faster, more personalized responses.
- Scalability – Handle peak call volumes seamlessly with AI assistance.
- Data-Driven Insights – Call analytics to measure service performance and customer needs.
- Integration with TimeTec Ecosystem – Seamless link to visitor management, access control, smart community systems.

DINSTAR

UC350/UC350 Pro

High-end IP PBX



UC350 Series IP PBX is a new generation IP PBX for large capacity unified communication solutions. Based on powerful hardware platform, UC350 Series IP PBX includes UC350 and UC350 Pro. UC350 and UC350 Pro support 1,000/5,000 extensions and 100/500 concurrent calls which is integrated voice, video, paging, fax, conference, recording and other useful functions. It also provides four slots which are able to install E1/T1 boards, FXS and FXO boards by hot-plug mode, so that it can be flexibly configured and combined according to the actual use scenarios. It is suitable for helping to build the telephony system of large and medium-sized enterprises, and can meet the branch office needs of large group enterprises and government agencies, helping enterprises and industry customers to establish a convenient and efficient IP telephone system.



Modular Design



Auto Provisioning



Intelligent IVR



Hot Standby



IP Firewall



TLS/SRTP



High Performance

- Up to 5,000 SIP extensions
- Up to 500 concurrent calls
- Up to 32 FXS/FXO ports, 16S16O or 16 E1/T1 ports
- 2/4 GE ports for efficient data forwarding
- New hardware architecture with powerful CPU and DSP

High Reliability

- Hot standby: dual-server redundancy without downtime
- 1+1 redundant power supplies
- Modular design, hot-swappable and customizable telephony boards (8FXS, 8FXO, 4FXS4FXO, 1/2/4E1s)
- Flexible routing, PSTN failover, load balance



DINSTAR

UC120

VoIP PBX

UC120 is a VoIP PBX phone system designed for small and medium sized enterprises to boost productivity, improve efficiency and reduce telephony and operational cost. As a converged platform offering diverse connectivity to all networks like FXO (CO), FXS, GSM/VoLTE and VoIP/SIP, supporting up to 60 users, UC120 allows businesses to take advantage of state-of-the-art technology and enterprise-class features with small investments, delivering high performance and superior quality to meet the communication needs of today and tomorrow.



4G LTE



Multi-level IVR



Voicemail



Auto-provision



Recording



Wi-Fi



Small Size, Big Potential

Max SIP Extensions	60
Max Concurrent Calls	15
Analog Ports	2
4G LTE/GSM	Optional
Wi-Fi	Yes

Cost-saving Phone System for SMEs

- Affordable Upfront System: Cost-effective IP PBX and IP phones. No annual licensing fees or recurring fees.
- Slashed Communication Cost: Free internal calls and low-cost external calls via SIP trunks.
- Reduce Installation & Maintenance Cost: Easy to use, manage and maintain, remote management and remote upgrade in bulk.
- Retain Old Legacy Equipment: Retain your legacy equipment like analog phones, fax and legacy PBX using VoIP gateways.



DINSTAR

C66G/C66GP

High-end Business SIP Phone

C66G/C66GP is a versatile HD SIP phone designed for high-end business environments. With its elegant appearance and excellent performance, it fits well in various settings. The 4.3" 480 x 272-pixel graphical LCD with backlight offers clear visual effects. The phone delivers superior HD voice quality and multiple system functions to meet diverse user needs. Equipped with dual Gigabit Ethernet ports, the C66 is easy to install, configure, and use. It supports 20 SIP accounts and 6-way conferencing, seamlessly integrating with IP PBX systems to provide rich business functionality.



[4.3"]

4.3" Graphic LCD

20 LINE

20 SIP Accounts

50

50 Line Keys

6

6-way Conference

Wi-Fi & Bluetooth Dongle

Wi-Fi & Bluetooth Dongle

HD

HD Voice



High-definition Audio

- Full duplex speaker and microphone
- Digital signal processor (DSP)
- Wideband codec: G.722, OPUS-WB
- Echo cancellation/Dynamic jitter
- Voice activity detection(VAD)
- Comfort noise generation(CNG)

6-way Conferences

C66G/C66GP IP Phone facilitates 6-way audio conferencing, allowing the conference organizer to invite up to 5 participants. This enhances collaboration across various departments or organizations, improving efficiency.

Support 3rd-party EHS Headsets

C66G/C66GP IP Phone is compatible with third-party EHS wireless headsets (Plantronics, Jabra, and Sennheiser), making it an ideal choice for call center professionals. This feature allows employees to multitask while engaged in audio communication, significantly enhancing overall work efficiency.

Multiple Programmable Keys

Featuring 50 Line Keys, 4 Soft Keys, and 6 Function Keys, all fully programmable, C66G/C66GP IP Phone provides one-touch access to frequently used features like speed dialing, call transfer, and conference calling, boosting productivity by enabling users to customize functions, ensuring efficient and personalized usage.



Smart Township (Operation)

Driven by Software

TimeTec Smart Township Ecosystem, the result of years of effort by TimeTec R&D, began with smart workforce management and people and vehicle flow as its core modules. It was later enhanced with a smart community system for residential and commercial buildings. Built on a technology infrastructure that leverages cloud computing, IoT, 5G, big data and artificial intelligence, it comprises more than 18 meticulously designed cloud applications that work seamlessly either as standalone solutions or in an integrated environment. The ecosystem aims to deliver greater automation and efficiency, ultimately achieving the comfort of city living.

Second Level

ENGAGEMENT

Driven by Software

Cloud Applications & Apps (Digital Ecosystem)

Smart Township

(Operation)

Tenant Management
TimeTec Building •



Property Accounting
i-Account •



**Tenant Access
Visitor Management**
i-Visit •



Guard Patrol
TimeTec Patrol •



Near Field Commerce
i-Ad •
i-Merchants •
Loyalty Point •
Reward System •



Tenant

Automation

Security

Commerce



Parking Management
• TimeTec Parking



Facility Maintenance
• TimeTec Maintenance



IoT Smart Device
• i-TimeTec



Access Control
• TimeTec Access
• Door, Turnstile, Lift

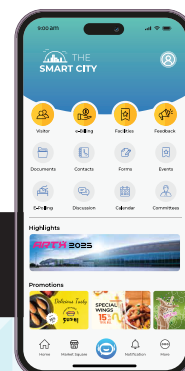


Surveillance System
• TimeTec Epicamera



Physical Ad
• Lift, Lobby, Barrier

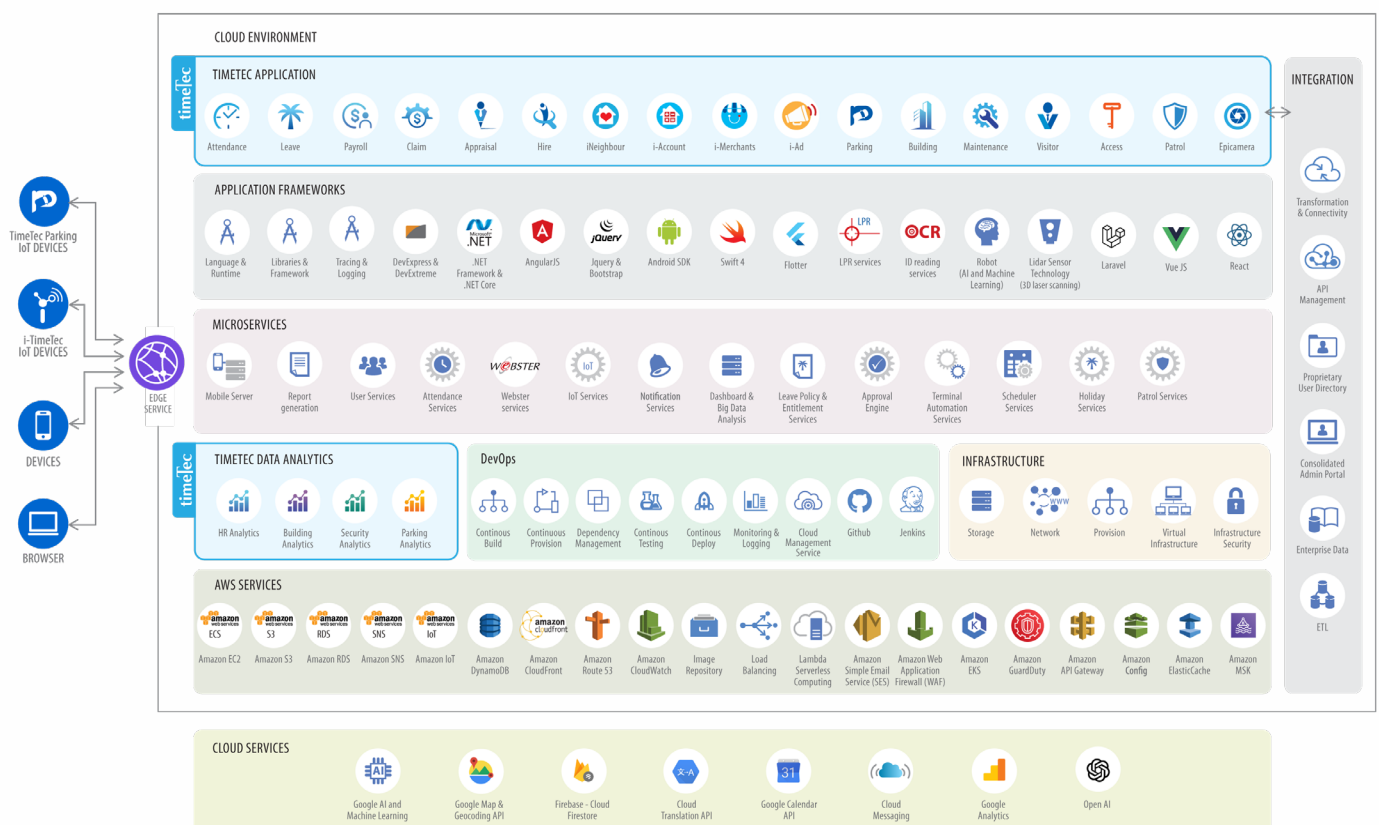
WORKFORCE MANAGEMENT
Time Attendance, Leave, Claim, Payroll





TimeTec Cloud Technology Architecture

This document delineates the architectural blueprint of TimeTec Cloud, spotlighting its robust, cloud-native framework. The architecture encompasses a modular application stack with microservices, integration interfaces, and a cloud infrastructure built atop AWS and Google Cloud platforms. It is designed to support real-time smart city, security and smart workforce operations across multiple products, enabling seamless data collection, processing, reporting, and third-party interoperability.



timeTec

APPLICATION

The applications running within TimeTec Cloud are as follows: TimeTec TA, TimeTec Leave, TimeTec Patrol, TimeTec Hire, TimeTec VMS, TimeTec Access, TimeTec Parking, TimeTec Payroll, TimeTec Claim, TimeTec Appraisal, TimeTec Building, TimeTec Maintenance, iNeighbour, Epicamera, i-Merchants, i-Ad, i-Account. Discover more information regarding the applications at their respective websites.

APPLICATION FRAMEWORKS

Application Framework provides necessary support for our Cloud Development. This includes every aspect that a developer requires to build and run the application.



Language & Runtime: Applications are written in different programming languages such as .NET, PHP, Java and etc. TimeTec uses native runtime environment supported by its programming language.



Library & Framework: DevExpress & DevExtreme, AngularJS, etc, are the JavaScript library used for our front-end user interface. TimeTec uses JUnit, PHP Unit as our Unit test framework.



Tracing & Logging: To enable internal trouble-shooting, TimeTec uses LogRocket to better understand the customer's behaviour and problem. We also use Crashlytics to collect the crash report for our mobile application.



DevExpress & DevExtreme: TimeTec uses DevExpress & DevExtreme library in the web platform. DevExtreme is a HTML5 JavaScript Component Suite for Responsive Web Development, which provides us with extensive controls on Data Grid, Mapping, Charting, UI Widget as well as Integration.



Laravel: TimeTec also leverages widely-used website frameworks like Laravel for new projects, ensuring alignment with market trends and supporting open source initiatives.



.NET Framework & .NET Core: TimeTec uses Visual Studio C# for the majority of our TimeTec Cloud applications. We are using .Net Framework and the latest .NET Core technology to provide better performance and scalable system in the long run.



AngularJS, JQuery & Bootstrap: AngularJS is an open source front end web framework maintained by Google. JQuery is another Javascript library that works with Bootstrap as well as acts as our front-end framework. We are using that to extend our HTML capabilities and convey the application components effortlessly in addition to simplifying the front-end development experience.



Android SDK: TimeTec uses Android studio to develop most of our Mobile Apps. Since we need to communicate with low level hardware and system level control, it is thus best to develop using Native Android SDK for such development.



Swift 4: TimeTec also uses Swift 4 to develop our Mobile Apps for better communication with low level hardware and system level control.



Vue JS: A progressive JavaScript framework designed for building user interfaces and single-page applications. It is known for its approachability, performance, and flexibility.



LPR Services & ID Reading Services: In expanding our cognitive technology, TimeTec has developed the in-house license plate recognition and identification card reading services using our proprietary OCR method.



Robot (AI & Machine Learning): This is our newly ventured and developing technology. The Robot system will be equipped with AI & Machine Learning capabilities to perform tasks such as patrolling or in-door delivery.



Lidar Sensor Technology: This is the main component for our Robot system. Lidar is a surveying method that measures distance to a target by illuminating the target with a pulsed laser light. This aspect helps the Robot in moving around the area.



Flutter: TimeTec adopt industry popular Mobile App development kit for new app such as TimeTec Building and TimeTec Maintenance.



React: React is a front-end JavaScript library developed by the Meta. It is a tool for building UI components.

MICROSERVICES

A microservices architecture provides a set of capabilities that enable better communication within the system. Example of capabilities that are available between our Cloud platform are as follow:



Mobile Server: It is used as a communication method for TimeTec Mobile App. Mobile Server will accept the request from the mobile app and return the feedback accordingly. It is also closely integrated with GPS Location and Notification services.



Report Generation: Provides a variety of reports such as TA: Report comprising of users clocking activities, i.e. calculated work time, breaks, overtime and work hour shortage in a chosen date range. The report also contains a summary of attendance, tardiness and leave taken by the selected users.



Leave: Report comprising of detailed and summarized information on users' Allowances, Balances, Approved/Pending/Rejected and Cancelled Requests in a calendar year.



Patrol: Report comprising of guards patrol activities including detailed and summarized information on guards' tardiness, incident reported, job order received during a patrol.



User Services: Centralizes all employees' profiles and data for syncing between other TimeTec solutions. Customize profile field to control the admins and users viewing rights in user profile. Provide several privileges to maintain security, the highest authority being System Administrator (only account creator has this privilege). Likewise, System Administrator can choose which users to be given the administrator privilege(s).



Attendance Services: Transaction log from terminal, mobile app, web will be consolidated and processed by our attendance services based on the schedule defined via a comprehensive attendance conversion algorithm.



Webster Services: Access raw time attendance data from FingerTec hardware remotely. The real-time user info, transaction log and terminal data can be transmitted and synchronized to Webster Services via Internet connection.



IoT Services: TimeTec IoT Services is built on top of AWS IoT platform to offer high availability. All of the messages are sent via MQTT and stored in the NoSQL database such as Amazon DynamoDB.



Notification Services: Dedicated notification services to manage the communication message sent to TimeTec Cloud Mobile App and Web. Integrated with clocking monitoring, this service allows users to monitor the attendance and tardiness for staffs under users' supervision as per defined by the Hierarchy Chart based on the time set.



Dashboard & Big Data Analysis: All TimeTec cloud applications come with a comprehensive dashboard and data analysis. It is also in our pipeline to build a more comprehensive and consolidated big data analysis platform to provide customers with more insight for improvement.



Leave Policy & Entitlement Services: This includes the calendar renewal, service accrual, balance accrual and reminder module.



Calendar Renewal: Automate user's leave renewal annually.



Service Accrual: Automatically increase your user's allowance/balance once they have reached a certain number of months/years of service within your company. For example, if a user has served the company for more than 5 years, 3 days annual leave will be added to their leave allowance/balance.



Balance Accrual: User's leave balance accrued based on accrual interval setting



Reminder: For employees regarding approved leaves prior to leave dates. Reminders can be sent to the administrators/managers/users or any email addresses.



Approval Engine: Apply to Overtime, Edit Attendance and Out of Area request. Request will be treated as Expired if the approvers did not complete the approval process within the given validity period. It also supports sequential approval, random approval and any approval mechanism.



Terminal Automation Services: Automate the process of downloading and uploading new users in FingerTec Terminal to TimeTec TA and vice versa. Set the time to trigger the process, select your terminals and enable Auto-create User Profile to add the user in TimeTec TA automatically.



Scheduler Services: A clocking schedule can be set up with rules for calculating clocking activities. Managing Clocking Schedules is crucial in finding the balance for business demands and company's workforce resources. To achieve efficiency, clocking schedules need to be adjusted time and again. Edit details of your company's clocking schedules in this tab. Automate report generation by setting up the schedule settings, generation interval and recipients of the report.



Holiday Services: Each working year has numerous fixed holidays and leaves such as Christmas, Eid, Hannukah, Labor Day and so on, for different country and region. The holiday services will extract the information using Google Holiday API and import it to the respective TimeTec TA account annually.



Patrol Services: Process patrolling data based on route and schedule setting. Route setting allows users to set checkpoints that are required for patrol operation according to sequence or random. On the other hand, schedule setting allows scheduling for patrol routes on certain days and times to the security guards.

INTEGRATION

Microservice-based applications must communicate with internal/external system via different clouds or networks. The types of method that have been used to invoke these systems are as below:



Transformation & Connectivity: Secure connection for external and internal enterprise system. This setup often operates with Virtual Private Network (VPN) or under Hyper Text Transfer Protocol Secure (HTTPS).



API Management: To integrate between third party or internal system, API is the medium for communication. TimeTec uses both REST and SOAP Web API services for data communication using API.



Proprietary User Directory & Consolidated Admin Portal: To store and manage all users, resellers as well as distributors via admin portal.



Enterprise Data & ETL: To obtain insight and analysis from the current enterprise data, the enterprise data will need to be transformed via our internal Extract-Trans- form-Load (ETL) tools.



Edge Services: These are the infrastructure tools needed by Cloud services such as Content Delivery Network (CDN)

INFRASTRUCTURE

Infrastructure services provide the underlying cloud compute, network and storage capabilities that TimeTec Cloud requires to function. It also includes provisioning the virtual infrastructure storage and network accordingly on top of the AWS Services platform.

CLOUD SERVICES

TimeTec utilized multiple cloud services to provide the best user experience or performance in the web application.



Google AI and Machine Learning: Under our R&D process, TimeTec is working on Google AI such as Google Vision API to extract the information and insight of the attendance photo.



Google Map & Geocoding: To geocode the GPS location in mobile app and web platform, TimeTec is using the Google Map API services.



Firebase – Cloud Firestore is a platform to store and sync data between users and devices - at a global scale - using a cloud-hosted, NoSQL database. It is used to keep track and monitor our real time patrolling record via mobile app.



Cloud Translation API: To minimize and speed up our software localization process, TimeTec has adopted the Google Cloud Translation API for machine translation in terms of all our software's text and wording.



Google Calendar API: Integrated with Google Calendar to retrieve all of the Holiday information from every country effortlessly. The data can then be imported to TimeTec TA company calendar.



Cloud Messaging: Used to send data from TimeTec TA into users' devices. The Firebase Cloud Messaging will help handle all aspects of queueing in messages as well as delivery to the client mobile application.



Google Analytics: Google Analytics is a premium web analytics service offered by Google that tracks and reports website traffic. TimeTec is using the tools to understand the customer web traffic pattern as well as the customer visitor data, which will then be used for online marketing purpose.



OpenAI: The OpenAI API provides a simple interface to state-of-the-art AI models for content generation, natural language processing (NLP), computer vision, and more. TimeTec leverage this advanced capabilities within the web applications.

DATA ANALYTICS



HR Analytics: TimeTec provides the Data Analytics that involves the analysis of human resources data to derive insights and make informed decisions regarding various aspects of HR management. This could include analyzing data related to employee performance, attendance, recruitment, training, and other HR-related metrics, effectiveness.



Building Analytics: TimeTec provides the Data Analytics that specifically tailored for building management purposes. It involves the analysis of data related to building operations, occupancy, maintenance, energy usage, security, and other relevant metrics.



Security Analytics: TimeTec provides the Data Analytics that focused on analyzing data from security systems. This include analyzing data from security cameras, access control systems, intrusion detection systems, and other security technologies deployed within an organization.



Parking Analytics: TimeTec provides the Data Analytics that parking operators or building owners can gain insights into parking usage patterns, occupancy rates, peak hours, revenue generation from various parking methods and incomes, and other relevant metrics.

AWS SERVICES

TimeTec Cloud is running on AWS services to speed up the entire new technology adoption and infrastructure design of our cloud platform. Services used are not limited to the following:



Amazon EC2: Web and Application will be hosted as Amazon EC2 server instances. All EC2 instances will be behind Amazon ELB to support high availability.



Amazon S3: AMI's, Logs, Snapshots, Backups and static assets can be maintained in Amazon S3. It is used to store all TimeTec reports, images, user photo and etc, as well as designed to provide 99.999999999% durability of objects over a given year.



Amazon RDS: Managed MySQL database services and with Multi-AZ as well as Read Replica configuration to ensure high availability of service. Amazon SNS: Notifications, Alerts triggered from CloudWatch will be published to the System administrators via SNS.



Amazon IoT: A managed platform for IoT hardware to connect, communicate and control. It is used by our access control hardware with multi-layered security and proven at scale.



Amazon EKS: TimeTec modernized web and mobile application with Amazon Elastic Kubernetes Service which improve the performance, scale, reliability, and availability of our AWS infrastructure.



Amazon GuardDuty: TimeTec use GuardDuty threat detection service that continuously monitors our AWS accounts and workloads for malicious activity and delivers detailed security findings for visibility and remediation.



Amazon API Gateway: TimeTec use it for creating, publishing, maintaining, monitoring, and securing REST, HTTP, and WebSocket APIs at any scale.



Amazon Config: TimeTec use it for continually assesses, audits, and evaluates the configurations and relationships of our resources on AWS.



Amazon MSK: A fully managed service that enables TimeTec to capture, store, process, and deliver real-time streaming data in TimeTec applications.



Amazon Dynamo: A NOSQL database to store our log transaction as it provides a better and more reliable support when compared to relational database. It is a key-value database that delivers single-digit millisecond performance at any scale.



Amazon CloudFront: A cloud distributed content delivery system to securely push web content into the nearest edge server. It is used to speed up the entire website loading time and reduce the network latency.



Amazon Route53: A managed DNS services which can be scaled based on demand. It operates with redundant DNS server to offer high availability on the domain name services.



Amazon CloudWatch: Components of Amazon Web Services such as EC2, EBS, etc, will be monitored using AWS CloudWatch. CloudWatch comes with an alarm alert feature, which can be customized based on your monitoring activities.



Amazon Elastic Load balancers: Software Load balancers HAProxy/Nginx/Amazon ELB will be used for load balancing. It will distribute the web traffic to the designated web server for us to scale out our application accordingly.



Lambda Serverless Computing: A new programming concept to write our new application and service without provisioning any new instances or servers.



Amazon SES: A managed email services to enable communication between the system and all of the subscribers. It is a reliable, cost-effective service for TimeTec applications to contact our subscribers.



Amazon WAF: To ensure our cloud service is protected by DDOS attack and serve as the front layer to filter unauthorized and malicious web traffic. It is very efficient in blocking common attack patterns, such as SQL injection or cross-site scripting as well as rules that are designed with TimeTec applications.



Amazon ElasticCache: A fully managed, in-memory caching service that used to enhance application performance by providing microsecond latency for data retrieval. This is achieved by storing frequently accessed data in memory, significantly reducing the load on backend databases and improving overall application responsiveness.

DevOps

DevOps is essential for a successful cloud application development. It is a very important concept for cloud development as well as cloud operation. TimeTec uses Jenkins server to help manage our software pipeline for continuous integration/continuous development (CI/CD). Below covers the following capabilities in our DevOps architecture:



Continuous provision: Instrumenting and automating underlying cloud virtualization such as creating cloud cluster using cloud formation.



Continuous build: Continuous building deployment DLL or files required for new features and requirements. The build is automated and triggered once the source code has been committed to our source code control platform.



Dependency management: Tools to automatically pull in dependencies during build process, e.g. visual studio .net library. It also includes the Android SDK and Apple IOS SDK dependency for TimeTec mobile app pipeline.



Continuous testing: Automation for invocation of unit tests case using selenium with Visual C#. It is integrated to all different types of development pipeline and project to reduce the repetitive work required during the testing process.



Continuous deployment: Ability to deploy individual files and DLL files into the server. TimeTec has a 2 weeks deployment cycle for our web platform and at least 1-month deployment cycle for our mobile app.



Monitoring and logging: A comprehensive monitoring and logging ecosystem is required to debug and monitor the resources used and root causes of the problem. TimeTec mainly uses AWS console for our daily monitoring activities.



Cloud management services: Cloud management includes many different tools such as Event Management tool, notification tools, configuration tools in the AWS console.



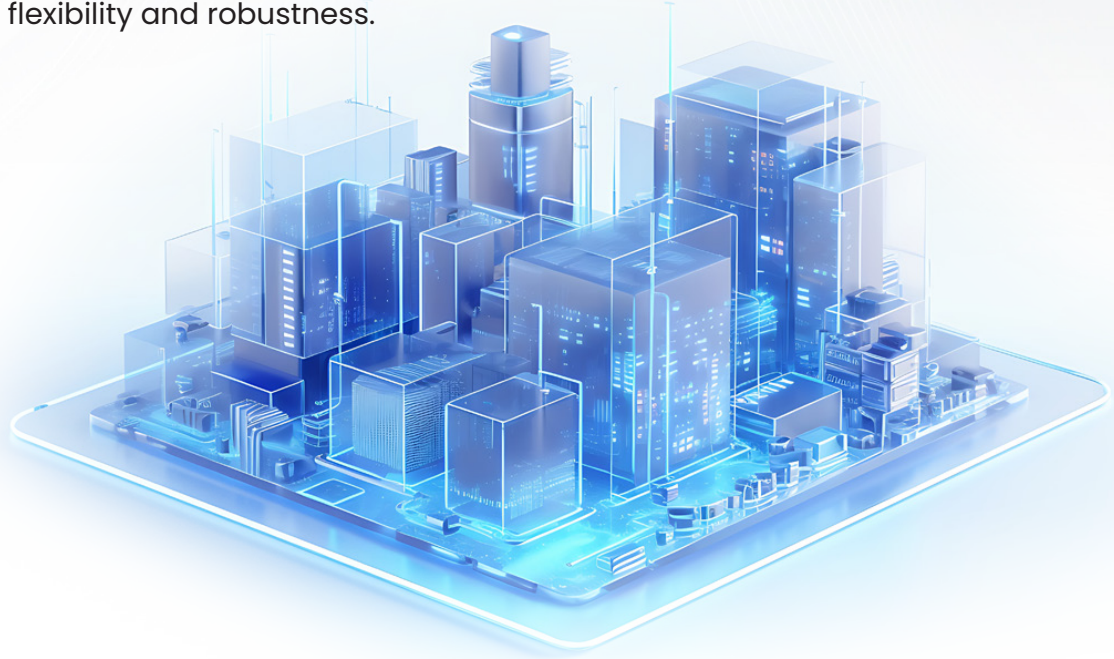
GitHub: TimeTec uses GitHub to create, store, collaborate, and manage code. TimeTec also use GitHub Copilot which is an AI coding assistant to write code faster, better and more securely.



Jenkins: TimeTec uses Jenkins to streamline CI/CD by automating building, testing, documentation, packaging, code analysis, and deployment.

Summary

The TimeTec Cloud Technology Architecture outlines the comprehensive, scalable cloud-based framework that underpins TimeTec's smart cities as a whole, including workforce management and security solutions. At its core, the architecture integrates modular components—ranging from application layers and microservices to integration frameworks and infrastructure services—ensuring both flexibility and robustness.



Key highlights include:

- **Application Stack & Frameworks:** A robust application served by modular frameworks and microservices, enabling flexible deployment and targeted capabilities.
- **Cloud Infrastructure:** Leveraging major cloud platforms such as AWS and Google Cloud to provide high availability, scalability, and resilience; multiple availability zones, auto scaling, and load balancing are integral to the design
- **Integration & Extensibility:** Rich integration layers and APIs (SDK, Web Services, etc.) support seamless communication with various TimeTec modules (e.g., TA, Leave, VMS) as well as third-party systems (e.g., payroll systems, Salesforce CRM)
- **Data and Process Flow:** Facilitates real-time collection, processing, and reporting of attendance and workforce data through diverse interfaces—biometric terminals, mobile apps, and web portals—while supporting complex scheduling and multi shift configurations

Why This Matters

This architecture is engineered for enterprise-grade performance, with a cloud-first design that:

- **Enhances Flexibility:** Modular microservices and integration capabilities allow TimeTec to adapt quickly to evolving business workflows and technologies.
- **Ensures Reliability:** By harnessing AWS/Google Cloud infrastructure, the system achieves automatic scaling, redundancy, and fault tolerance.
- **Supports a Multi-Application Ecosystem:** The framework serves as the backbone for a wide array of TimeTec solutions—like TA (Time Attendance), Leave, VMS (Visitor Management), Access, Patrol, and more—ensuring interoperability and extensibility

Property Handover Modules

Vacant Possession & Defect Management

Deliver a flawless handover experience from construction to occupancy.

The Vacant Possession and Defect Management modules form a unified Post-Construction Handover Suite within the TimeTec Smart Community Ecosystem, ensuring that the transition from construction to occupancy is efficient, transparent, and customer-centric.



Vacant Possession Module

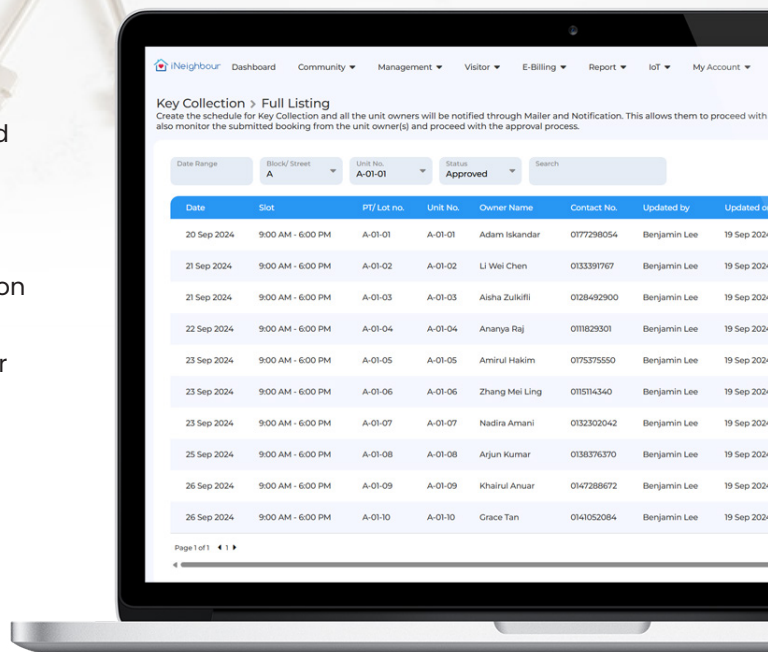
Digitalize Property Handover for a Seamless Owner Experience Transform your VP process from paperwork chaos to a sleek, digital-first workflow. Let buyers schedule, acknowledge, and receive their new home keys effortlessly — online and on time.

Key Features

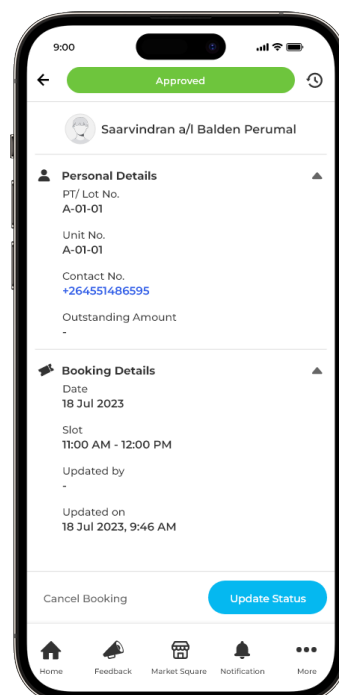
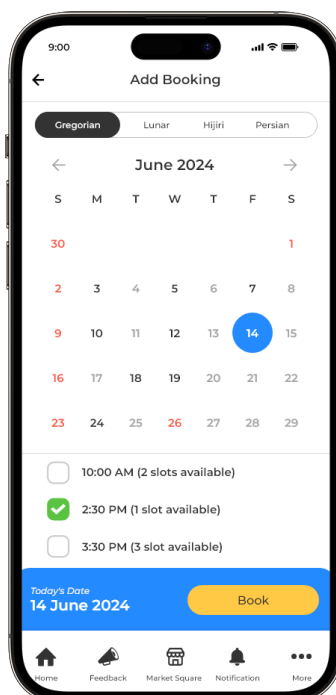
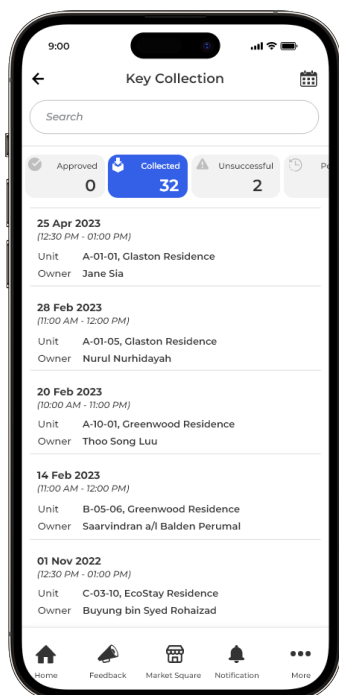
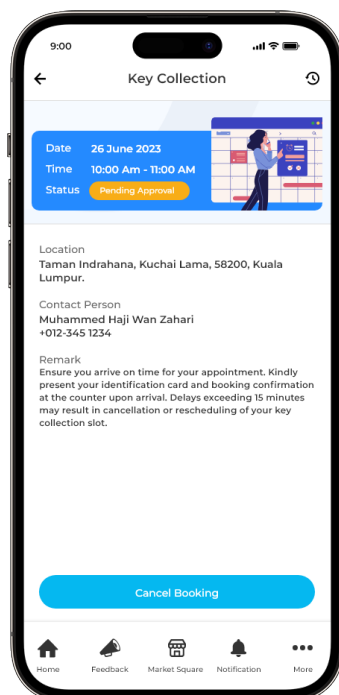
- **Smart Appointment Booking** – Owners select preferred handover dates & times via app.
- **Unit Readiness Tracker** – Monitor completion, cleaning, and inspection status in real time.
- **Digital Forms & Signing** – Go paperless with e-signature acknowledgment and online acceptance.
- **Instant Notification** – Keep buyers updated automatically on readiness and collection schedules.
- **Data Archival** – Securely store all VP documents and owner confirmations for compliance and audit.

Benefits

- Eliminate manual coordination & paperwork
- Improve owner satisfaction and transparency
- Ensure full compliance with documented digital trails



Date	Slot	PT/ Lot no.	Unit No.	Owner Name	Contact No.	Updated by	Updated on
20 Sep 2024	9:00 AM - 6:00 PM	A-01-01	A-01-01	Adam Iskandar	0177298054	Benjamin Lee	19 Sep 2024
21 Sep 2024	9:00 AM - 6:00 PM	A-01-02	A-01-02	Li Wei Chen	0133391767	Benjamin Lee	19 Sep 2024
21 Sep 2024	9:00 AM - 6:00 PM	A-01-03	A-01-03	Aisha Zulkifli	0128492900	Benjamin Lee	19 Sep 2024
22 Sep 2024	9:00 AM - 6:00 PM	A-01-04	A-01-04	Ananya Raj	011829301	Benjamin Lee	19 Sep 2024
23 Sep 2024	9:00 AM - 6:00 PM	A-01-05	A-01-05	Aminul Hakim	0175375550	Benjamin Lee	19 Sep 2024
23 Sep 2024	9:00 AM - 6:00 PM	A-01-06	A-01-06	Zhang Mei Ling	015114340	Benjamin Lee	19 Sep 2024
23 Sep 2024	9:00 AM - 6:00 PM	A-01-07	A-01-07	Nadira Amani	0132302042	Benjamin Lee	19 Sep 2024
25 Sep 2024	9:00 AM - 6:00 PM	A-01-08	A-01-08	Arjun Kumar	0138376370	Benjamin Lee	19 Sep 2024
26 Sep 2024	9:00 AM - 6:00 PM	A-01-09	A-01-09	Khairul Anuar	0147288672	Benjamin Lee	19 Sep 2024
26 Sep 2024	9:00 AM - 6:00 PM	A-01-10	A-01-10	Grace Tan	0141052084	Benjamin Lee	19 Sep 2024



Defect Management Module

Close the Loop on Quality – Fast, Transparent, and Accountable

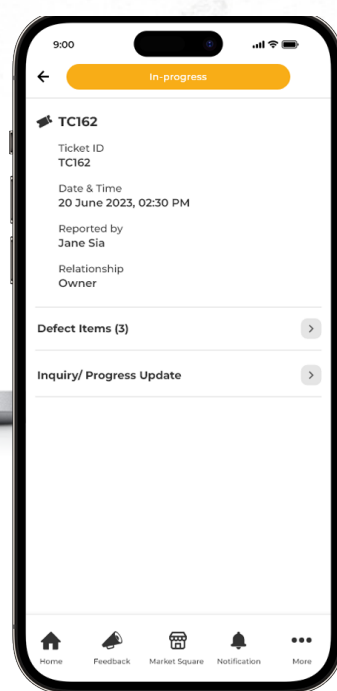
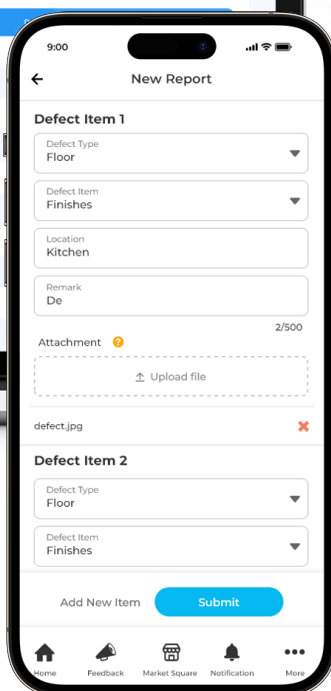
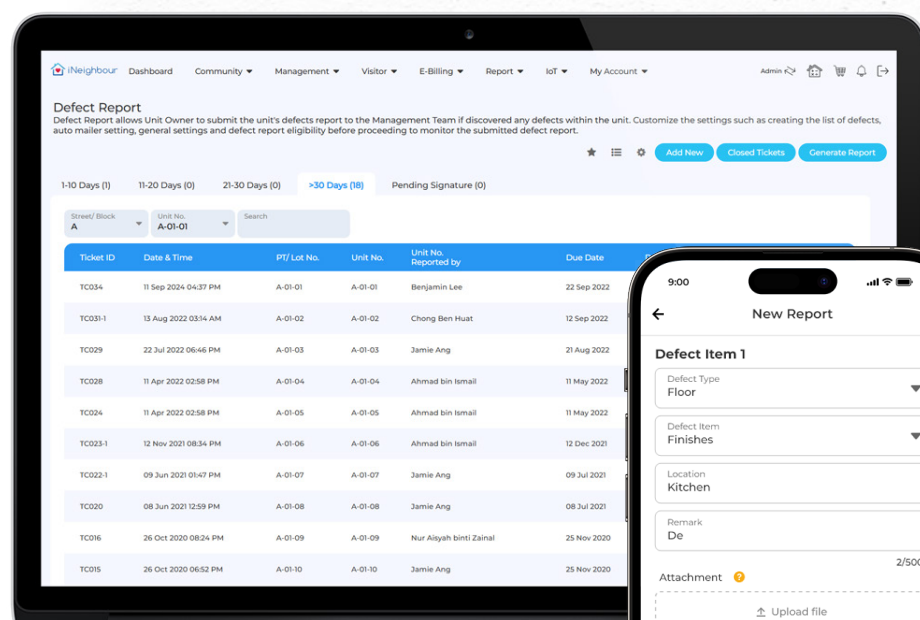
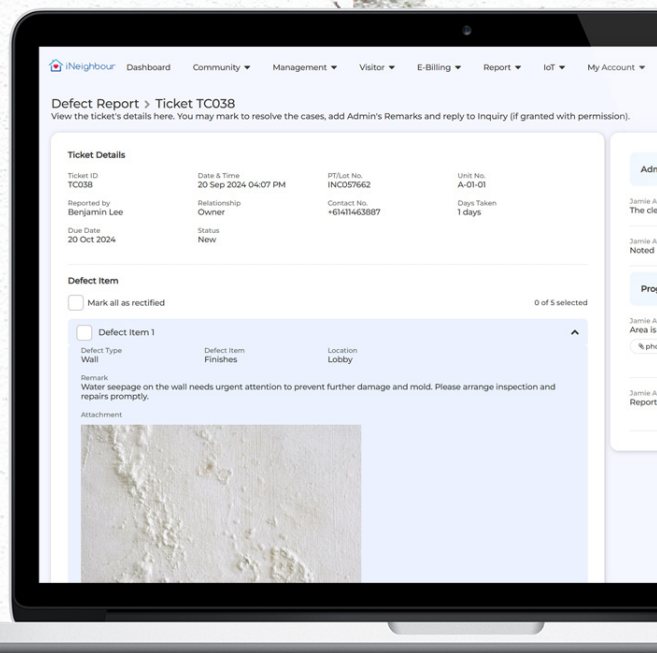
Empower owners to report defects, and help developers track, assign, and resolve them efficiently. Developers may also liaise with third-party contractors for better follow-up on defect reports within the App.

Key Features

- **Easy Defect Submission** – Owners log issues with photos & descriptions from their mobile app.
- **Smart Assignment & Tracking** – Automatically route defects to the right contractor or team.
- **Real-Time Status Updates** – Notify all stakeholders of progress, completion, and verification.
- **In-App Communication** – Keep conversations and proofs within one transparent platform.
- **Analytics Dashboard** – Track performance, SLA, and recurring issues for quality improvement.

Benefits

- Faster defect resolution, less dispute
- Full visibility from report to rectification
- Strengthen brand reputation through service excellence



Unified Post-Construction Suite

From Handover to Habitability — All in One Platform

- **Seamless Integration** – VP & Defect modules link seamlessly for smooth transition after key collection.
- **Smart Notifications** – Trigger defect inspection immediately after VP acknowledgment.
- **Part of the TimeTec Smart Community Ecosystem** – Integrates with iNeighbour, iTower, i-Account & others for a connected living experience.



Tenant Management Modules

Seamlessly connect tenants, management, and services in one smart platform—simplifying billing, access rights, and communications for a better living and working experience.



iTower by TimeTec





iNeighbour by TimeTec



Tenant Management in TimeTec Smart Township Architecture

In the TimeTec Smart Township framework, tenant management is implemented as a multi-layer, integrated service that unifies core property operations, IoT-enabled facility management, and tenant-facing digital engagement. The objective is to create a single source of truth for all tenant-related data, while enabling seamless interoperability with ELV, IoT, and cloud platforms.

System Architecture

- **Cloud-Based Core:** Tenant records, lease contracts, billing profiles, and service histories are stored in a multi-tenant cloud environment, ensuring high availability, redundancy, and secure data isolation.
- **API-Driven Integration Layer:** RESTful and WebSocket APIs connect the core system with building ELV systems (e.g., access control, parking, CCTV, intercom), IoT devices (environmental sensors, energy meters), and third-party services (payment gateways, ERP, CRM).
- **Multi-Platform Access:** Management teams access via a web-based control panel, while tenants interact through the TimeTec mobile app, which is designed with role-based access control (RBAC) and secured with OAuth 2.0 authentication.



Functional Modules

- **Onboarding & Digital Identity:** Tenant registration integrates with national ID/passport verification, vehicle registration, and mobile credential issuance. The system automatically provisions access rights to doors, lifts, and parking bays based on tenancy status.
- **Billing & Payment Automation:** Lease fees, service charges, and utilities are calculated from configured rate tables or IoT meter readings, then synced with payment gateways for FPX, credit card, or eWallet settlement. Real-time reconciliation ensures ledger accuracy.
- **Service Requests & Defect Reporting:** A ticketing engine with workflow automation routes maintenance or defect reports to relevant teams, attaches multimedia evidence, and tracks SLA compliance.
- **Communication & Compliance:** A push-notification engine distributes announcements, circulars, and policy updates; audit logs track tenant acknowledgements to meet regulatory compliance.
- **Community Engagement Tools:** E-Polling, E-Forms, and promotions modules allow property managers to run surveys, collect consent, and promote township events—all tied to tenant profiles for analytics.

ELV & IoT Integration

- **Access Control:** ELV systems (card readers, QR scanners, biometric devices) are linked to the tenant database, dynamically granting or revoking access upon lease activation/termination.
- **Parking Management:** LPR cameras and IoT parking sensors validate tenant vehicles in real time, with automated charging via pre-linked payment accounts.
- **Environmental & Energy Monitoring:** IoT sensors track power, water, and HVAC usage per unit, feeding consumption data into billing and sustainability dashboards.

Data Analytics & AI Enablement

- **Predictive Maintenance:** Machine learning models analyze defect reports and IoT sensor readings to forecast equipment failures.
- **Occupancy Analytics:** Real-time dashboards show unit occupancy, visitor frequency, and facility usage patterns, enabling optimization of operational resources.
- **Behavior Insights:** Transaction histories and app engagement metrics feed into AI models for targeted service offerings and community engagement strategies.



Security & Compliance

- **Data Security:** AES-256 encryption for data at rest, TLS 1.3 for data in transit, with regular penetration testing.
- **Regulatory Compliance:** Meets PDPA (Malaysia) requirements for personal data handling, with configurable data retention policies.
- **Disaster Recovery:** Multi-region replication and automated failover ensure business continuity in case of infrastructure outages.

In essence, TimeTec's tenant management is not just a digital ledger for occupancy—it is an orchestrated ecosystem component, designed to interconnect with every operational and lifestyle system in the township. This ensures that from the moment a tenant signs a lease to the day they move out, every interaction—physical or digital—is controlled, logged, and optimized through a unified, scalable architecture.

Tenant Management in Commercial **VS** Residential Properties

While TimeTec's Tenant Management framework shares a common cloud-based core, the functional emphasis, workflows, and integration points differ significantly between commercial and residential environments.



Commercial Buildings

In commercial environments—such as office towers, business parks, and retail complexes—tenant management emphasizes business continuity, security control, and facility efficiency.

Key Characteristics:

- **Multi-Entity Tenancy:** Tenants may be corporations, retail outlets, or service providers, each with multiple authorized personnel. The system must support multi-level access rights—e.g., employees, contractors, and visitors—tied to the company's lease profile.
- **Access Control & Time Windows:** Integration with ELV systems is often linked to business hours, ensuring after-hours entry is logged, authorized, or charged separately.
- **Visitor & Contractor Management:** Pre-registration, security vetting, and access scheduling are more critical due to higher visitor turnover.
- **Billing Complexity:** In addition to rental and service charges, commercial setups may require sub-metered billing for utilities (electricity, water, chilled water), shared facility usage fees, and marketing fund contributions.
- **Parking Management:** Monetization for season passes + casual (hourly) parking; optional tenant validation/discounts.
- **Shared Facilities Booking:** Meeting rooms, co-working spaces, exhibition halls, and loading bays are often bookable via the tenant app, integrated with real-time availability calendars.
- **Analytics:** Occupancy analytics focus on footfall trends, peak operating hours, and space utilization, feeding into operational cost optimization.

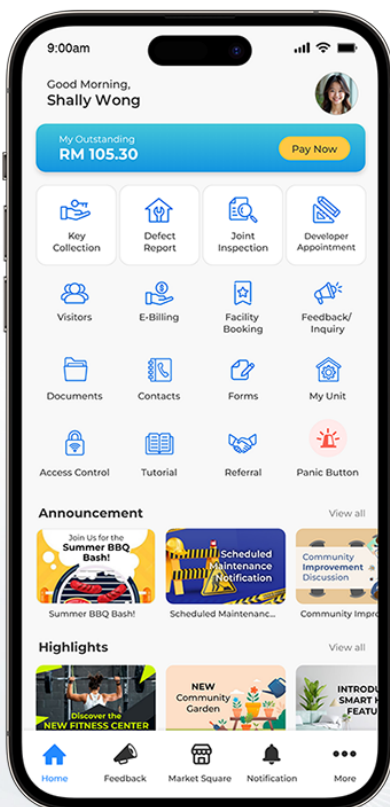
Residential Properties

In residential environments—condominiums, gated communities, and serviced apartments—tenant management prioritizes community engagement, lifestyle services, and resident satisfaction.

Key Characteristics:

- **Single-Entity Tenancy:** Typically, a single household per unit, though the system accommodates multiple residents with individual access rights.
- **Community Announcements & Polling:** Digital notices, e-polling for community decisions, and E-Forms for consent (e.g., renovation approvals) are widely used.
- **Facility Management:** Booking of amenities such as swimming pools, gyms, sports courts, and BBQ pits is often tied to usage quotas and community rules.
- **Defect Reporting & Maintenance Requests:** New developments use the app extensively for defect liability period (DLP) reporting, with photographic evidence and SLA tracking.
- **E-Billing & Payments:** Covers maintenance fees, sinking fund contributions, utility bills, and ad-hoc charges like access card replacements.
- **Parking Access:** Access control purpose, not revenue. Parking is tied to unit entitlement (e.g., 1–2 bays), not priced by time.
- **Security Integration:** Visitor pre-registration (QR codes), license plate recognition (LPR) for resident vehicles, and panic button features for emergencies.
- **Lifestyle Integration:** Shopping, restaurant, and service promotions are integrated into the tenant app to encourage local business engagement.

Home Management



Resident QR Code

Resident identity QR Code for quick security verification.



Multiple Unit

Manage all different residences under iNeighbour App.



Notification

Keep updated and informed with our notification system.



Visitor

Visitor overview to keep track of your visitor activity.



Tenant

Manage your tenant with iNeighbour App.



Family Member

Manage your family with iNeighbour App.



Emergency Contact

Automatically alert your family members and close friends in case of an emergency.

Resident Features



E-Payment

Make payments on maintenance fees, security fees, etc.



Visitor Invitation

Pre-register or invite visitors into the community.



Facility Booking

Book facilities within the community.



Feedback & Inquiry

Feedback or report any incidents that occurred within the community.



My Calendar

Be reminded of your upcoming activities in the community with our calendar.



E-Documents

Upload documents such as application forms, house rules, etc. for the community to download.



E-Forms

Submit community forms digitally.



E-Polling

Conduct simple surveys and collect votes from administrators, committee members and residents.



E-Contacts

Keep management contact and general contact information updated with the click of a button.



Manage Events

Organize or arrange any particular events that will be taking place in the community.



Announcements

General notice board for the community.



Discussion

Start a discussion with residents to raise concerns or create awareness.



Panic Button

Send an alert to security guards and emergency contact for immediate assistance.

Summary of Differences

Aspect	Commercial Buildings	Residential Properties
Tenancy Type	Corporate, retail, service-based	Household/individual
Access Control	Business-hour rules, multi-level roles	24/7 personal access, household-based roles
Billing Model	Complex (rent, utilities, marketing funds, shared spaces)	Simpler (maintenance, sinking fund, utilities)
Parking	Season + casual paid parking; e-invoice & reconciliation	Access-only; security-driven; no time-based monetization
Facility Usage	Meeting rooms, co-working spaces, loading bays	Recreational and lifestyle facilities
Engagement Tools	Operational notices, emergency drills	Community news, e-polling, promotions
Security Priority	Visitor/contractor vetting, access logging	Visitor pre-registration, panic button alerts
Data Analytics	Footfall, space utilization, business performance	Facility usage patterns, community satisfaction metrics

In essence: Commercial tenant management is operations and compliance driven, while residential tenant management is community and lifestyle driven. TimeTec's platform is architected to handle both profiles seamlessly within a single ecosystem, allowing mixed-use developments to operate without maintaining separate systems.

Mixed-Use Development Tenant Management

Unified TimeTec Approach

Mixed-use developments—combining commercial, retail, and residential components—are becoming the hallmark of modern Malaysian and regional smart townships. They offer convenience, lifestyle integration, and better land-use efficiency. However, they also create operational complexity: two different tenant management profiles, two different parking models, and multiple overlapping facility and security needs.

TimeTec’s unified tenant management platform is engineered to handle this dual-profile environment within a single ecosystem.



Architectural Approach

Single Cloud Core

All tenant data—corporate, retail, and residential—is managed in one multi-tenant cloud database, ensuring a single source of truth for identities, leases, access entitlements, and billing profiles.

Profile-Based Logic Layer

The system dynamically applies commercial rules (e.g., business-hour access, paid parking tariffs) to corporate/retail tenants and residential rules (e.g., household access, visitor pre-registration) to residents, based on unit classification.

Integrated ELV & IoT Fabric

Access control, LPR parking, CCTV, visitor management, facility booking, and environmental sensors are all interconnected, but access rights and workflows vary by profile type.

Parking Integration in Mixed-Use

Shared Infrastructure, Separate Business Logic

The same LPR/ANPR and barrier gate infrastructure can serve both commercial and residential lanes, but the backend applies different workflows:

- Commercial Tenants & Visitors: Season + casual paid parking, validations, e-invoicing, T+2 settlement, variance tracking.
- Residential Residents & Guests: Access entitlement by unit, time-bound guest passes, no paid hourly tariff unless configured for guest overflow areas.

Physical Segregation Options

Where security dictates, residential parking decks are physically separate; where space is constrained, system-level segregation ensures commercial users cannot access residential zones.

Operational Scenarios

Scenario A:

Resident in Serviced Apartment Wing

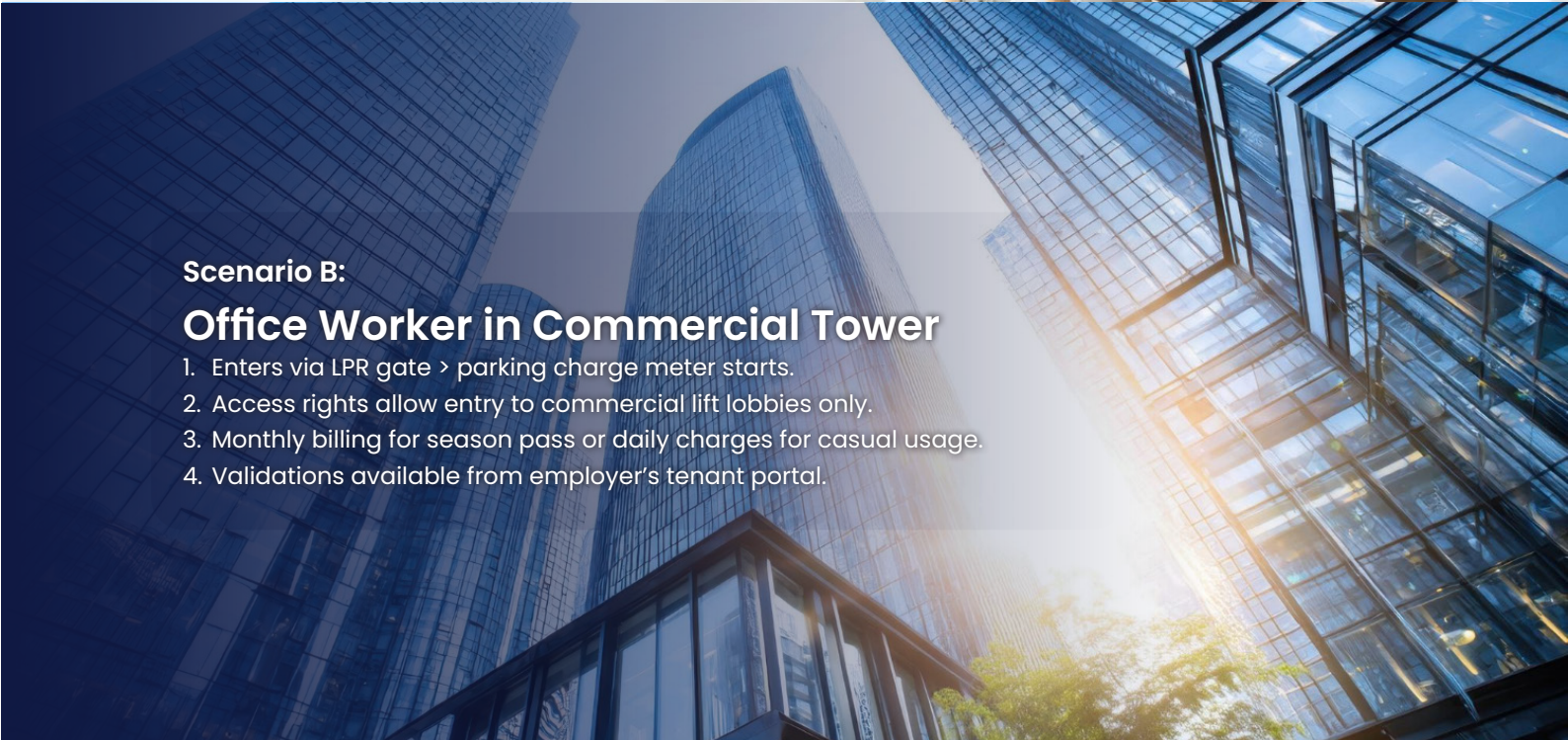
1. Enters via LPR > whitelist match grants access.
2. Access rights allow entry to residential lobby, facilities, and assigned parking bays.
3. Visitor pre-registers through resident's mobile app, receives QR pass for gate entry.
4. No parking charges applied; visitor's exit logged for security.



Scenario B:

Office Worker in Commercial Tower

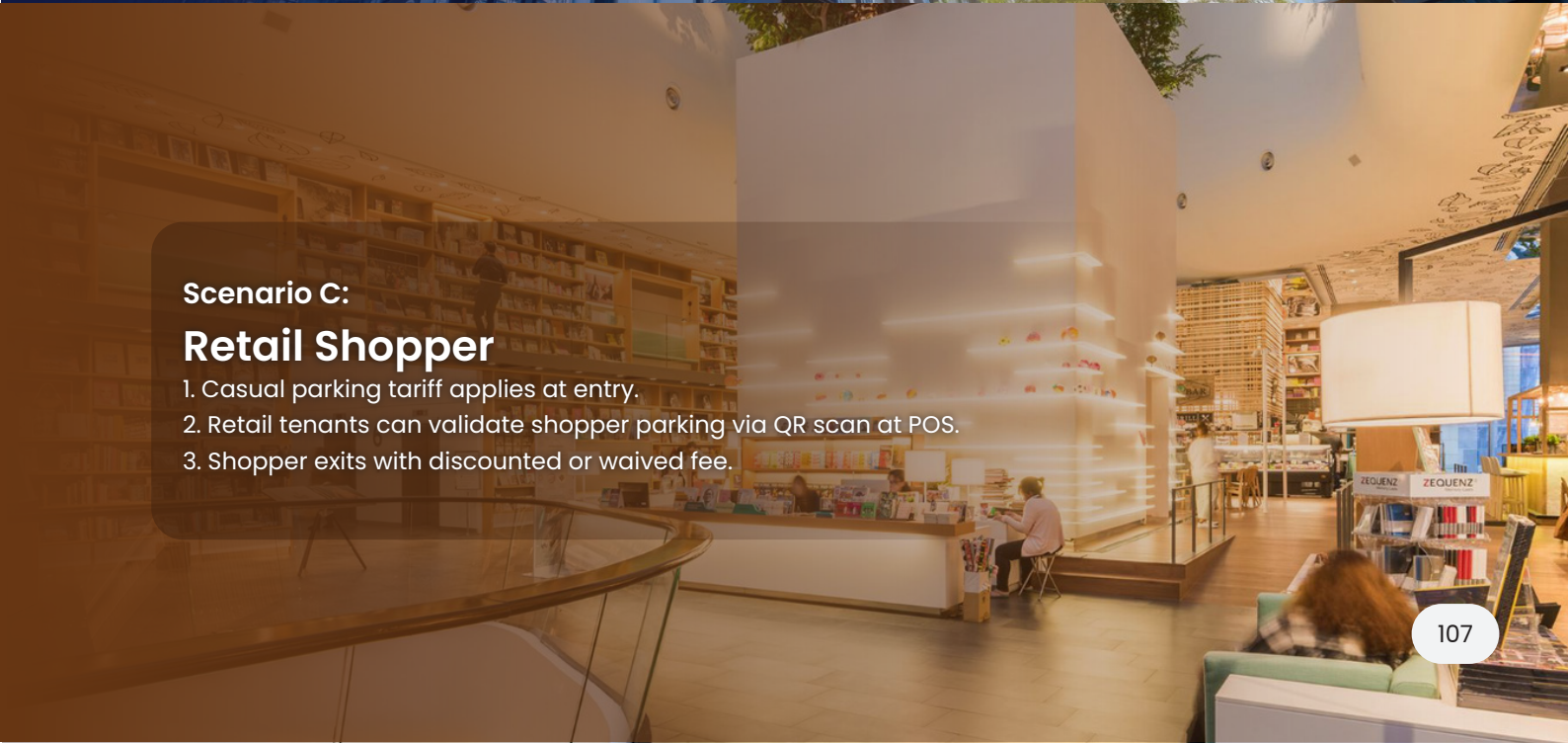
1. Enters via LPR gate > parking charge meter starts.
2. Access rights allow entry to commercial lift lobbies only.
3. Monthly billing for season pass or daily charges for casual usage.
4. Validations available from employer's tenant portal.



Scenario C:

Retail Shopper

1. Casual parking tariff applies at entry.
2. Retail tenants can validate shopper parking via QR scan at POS.
3. Shopper exits with discounted or waived fee.



Benefits of Unified Mixed-Use Management

Operational Efficiency

One backend, multiple profiles—reduces IT footprint, training needs, and integration complexity.

Enhanced Security

Clear zoning of access rights prevents cross-access between commercial and residential areas.

Optimized Revenue

Commercial parking revenue coexists with residential entitlement models without conflict.

Better User Experience

Residents, employees, and shoppers all use the same app but see only relevant modules and services.

Future-Ready

Scalable to add co-living, co-working, hotel, or short-term rental components in the future.

- Cloud Core provides multi-tenant DB, billing, identity, messaging, and analytics as the single source of truth.
- Integration & Orchestration (API gateway, event bus, webhooks, ETL) routes events and data between cloud apps, ELV/IoT, and third-party services.
- Commercial Profile Logic applies business-hour RBAC, validations, and revenue flows to modules such as:
Access & Visitor, Parking Revenue Engine (season + casual, tariffs, validation, e-invoice, reconciliation), Facility Booking (meeting rooms/loading bays), Sub-metering & Utilities Billing.
- Residential Profile Logic applies household roles and entitlements to:
Household Access & Visitor (whitelist/QR), Parking Entitlement (unit-bay mapping, guest quota), Facility Booking (amenities with quotas/rules), DLP & Maintenance (defect reporting, SLA).
- Shared ELV/IoT Fabric: Access control, LPR/barrier gates, CCTV/intercom, meters & sensors (energy/water/HVAC).
- Physical Zones: Commercial lanes & lobbies; retail lanes (shared tariffs/validation); residential lanes & lobbies; residents' parking decks as controlled zones.



i-Account

Property Accounting Management System:

TimeTec i-Account

i-Account is a powerful cloud-based accounting system designed to simplify and streamline property management accounting for the benefit of both commercial and residential communities. Purpose-built with an embedded community management module, it empowers residential and commercial management teams to do much more while receiving instant updates on every transaction. With i-Account, you can generate batch invoices, automate tracking and payment reminders, incorporate utility billing for each unit, and produce detailed reports on demand—saving time and reducing errors.

When integrated with iNeighbour & iTower, residents and tenants can conveniently view and pay their bills via the iNeighbour or iTower mobile app or web portal, with all payment records updated in real time in i-Account. This ensures transparency, accuracy, and peace of mind for all parties. Make the switch to i-Account today and take full control of your community's finances with ease and confidence.



Property Management

- Monthly charges setup
- House unit setup & integration with i-Neighbour
- Batch invoice creation
- Water meter & electricity billing
- Late payment interest charges
- Post-dated cheque reminder
- Notice of demand for defaulters
- Auto knock off invoice when payment is received in i-Neighbour online payment gateway



e-Invoicing Compliance

- Automated e-Invoice Creation & Submission
- E-Invoices Validation, Rejection and Cancellation
- Retrieve Customer TIN
- Individual, Consolidated and Self-Billed e-Invoices
- Types of e-Invoices: Credit Note, Debit Note, Refund Note
- Reporting and Dashboard
- Real-Time Tracking & Secure Data Storage



Fixed Assets

- Fixed Assets Purchase
- Fixed Assets Location Transfers
- Fixed Assets Disposal
- Fixed Assets Sales
- Fixed Assets Movements
- Fixed Assets Inquiry
- Process Depreciations
- Locations, Categories and Classes



Cash and Bank

- Open Bank and Petty Cash Accounts
- Record payments, deposits and withdrawals in related accounts
- Various currencies can be added / foreign currency translation
- Record bank enquiries and reports
- Prepare bank accounts reconciliation
- Transactions can be made void and reprinted



Sales and Account Receivables

- Open customer accounts and branches
- Create sales areas, sales types, sales groups, salesman groups
- Create sales groups for grouping customer branches
- Prepare sales quotations with inquiries or sales orders
- Prepare sales orders and goods delivery notes
- Prepare customer invoices and credit notes
- Create batch invoicing for more than one delivery order
- All sales documents are completely editable and printable
- Point of sales definitions for better management
- Customer payments and allocations
- Dimensions can be selected for sales delivery and invoice
- Shipping cost and legal text can be added to invoices



General Ledger

- Open general ledger accounts, account classes and groups
- Record journal entries and budget entries
- Generate ledger accounts detailed enquiries with drill down reports
- Add journal enquiries with an option to view
- Close fiscal year and bring forward retained earnings
- Record depreciation entries on period based
- Create journal entries with corresponding entry in supplier / customer account
- Filter general ledger reports by dimensions
- Quick entries (preset GL transactions) in bank deposit/ payment, journal entry and supplier invoice/credit



Inventory and Stock

- Record stock items
- Define item categories and locations
- Record location transfers and other adjustments
- Set reorder levels for inventory items
- Automatic calculation of average material cost (per unit)
- Application of standard and overhead costs
- Quantity of items can be measured into standard units
- Foreign codes registration for barcode scanner entry



Purchases and Account Payables

- Open supplier accounts
- Create purchase orders, goods receipt notes and payment terms
- Clearing of goods receipt notes
- Entry of supplier price lists & related conversion factor
- Arrange debit notes and record credit notes from suppliers
- Supply payments and allocations
- Dimensions can be selected for purchase orders and invoices
- Option to attach scanned documents with transactions



Other Advanced Features

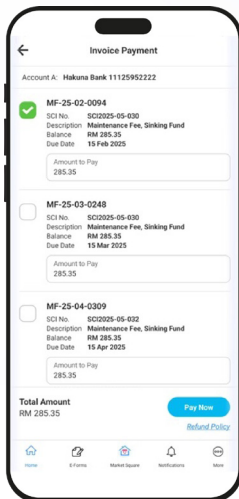
- Manufacturing module for material bills, work center inquiries and work order entries
- Dimensions module for projects, cost centers or departments
- Different companies can be configured simultaneously
- Separate financial years can be created and closed against entries
- Multi-user access with different privileges
- Create backups and restore for companies
- Simple audit trails
- Multi-currency support
- GST/VAT handling
- Language Support
- Documents can be emailed and printed simultaneously



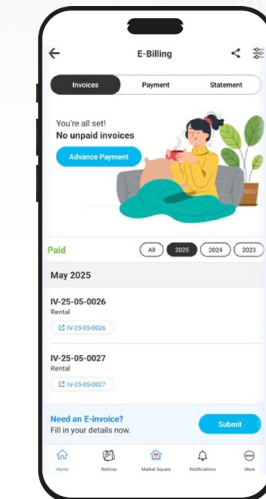
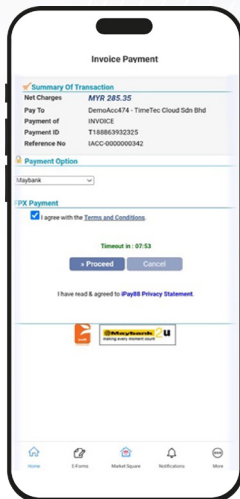
Reports

- All reports can be printed, emailed or converted into PDF
- Export the reports into Microsoft Excel/Open Office format
- Generate reports on periodic and financial year basis
- Email documents directly to customers
- Create graphical analysis (horizontal/vertical bars, dot lines, pie chart)
- Tag and save report selections

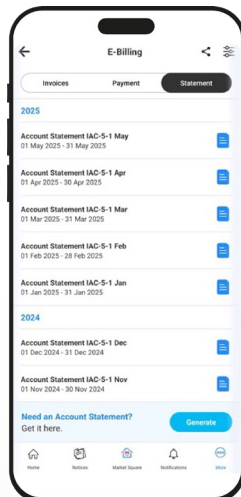
Seamless Integration with iNeighbour & iTower e-Billing Module



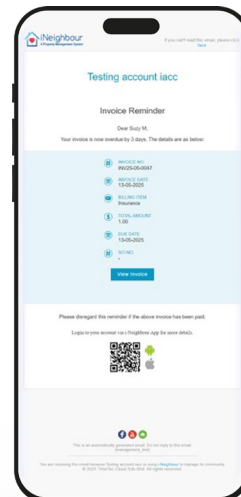
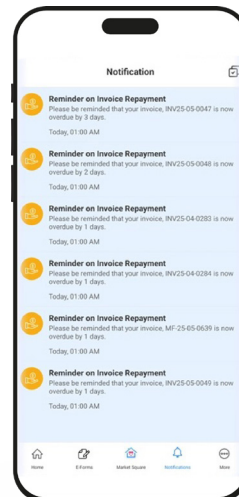
Pay Maintenance



Advance Payment



Account Statement



Maintenance Payment Reminder

Every time i-Account generates monthly bills, the bills will be auto uploaded to iNeighbour or iTower Smart Community System. Likewise, when unit owners make payment through the iNeighbour or iTower App or Web Portal, the information will be auto updated to i-Account complete with official receipt in real-time.

TimeTec i-Account also supports TimeTec Parking System.

Automation Modules

Integrating visitor management, smart parking, and facility maintenance into one platform—automating key operations to enhance efficiency, convenience, and community experience in the Smart Township Ecosystem.



Visitor Management System:

TimeTec Visitor

TimeTec Visitor Management System (Cloud)

Welcome people in, keep risks out—without paperwork or queues.

TimeTec Visitor is a cloud-native visitor management system that digitizes the entire journey from invite to exit. It gives reception, security, and hosts a single, real-time view of who's expected, who's inside, and why—across one site or many—while enforcing your policies automatically.



How it works

Invite & Pre-Register

Hosts send calendar-friendly invites with pre-fill forms (purpose of visit, organization, NDA/consent, safety brief). Visitors receive an e-pass QR via email/SMS/WhatsApp.

Arrive & Verify

At the lobby or gate, visitors scan their QR at a self-service kiosk or with a guard tablet. Optional eKYC, license/ID scan, photo capture, and temperature/safety prompts apply by visitor type.

Access & Monitor

On approval, TimeTec issues time-bound access (badge or mobile QR). Entry/exit is tracked in real time, and hosts get instant notifications. Overstays, VIPs, and watchlist hits trigger alerts automatically.

What you get (at a glance)

Faster entry, fewer bottlenecks: Pre-registration links, e-passes, and QR codes cut lobby time from minutes to seconds.

Stronger security & compliance: Verified identities, approval workflows, visitor watchlists, and full audit trails help you meet PDPA (Malaysia) and internal policies.

Zero IT headaches: 100% cloud (SaaS) with automatic updates, centralized control, and elastic scalability for events, contractors, and deliveries.

Actionable insights: Live dashboards and reports on visitor volumes, peak hours, host performance, and contractor SLA adherence.



Highlights you can turn on/off by policy

Visitor Types & Workflows

Guests, vendors, interviewees, contractors, delivery riders.

Policy Automation

Approvals, induction quizzes, NDAs, safety videos, and consent capture with digital signatures.

Badge & Pass Options

Printable badges, mobile QR/NFC, and temporary credentials.

Overstay & Occupancy Controls

Automatic reminders, escalations, and capacity limits.

Multi-tenant & Multi-site

Isolate tenants, standardize corporate policies, and report across locations.
Brandable experience: branded emails, kiosk screens, badges, and e-passes.

Built to integrate (and reduce duplication)

- TimeTec Access: auto-issue time-bound door or turnstile permissions for approved visitors; revoke on checkout.
- TimeTec Parking: pre-authorize LPR entry/exit for visitors by plate or issue a one-time parking QR; view parking and lobby events in a single timeline.
- iNeighbour (residential/ mixed-use): unified visitor flow for residential towers, facilities, and shared car parks.
- SentiTec devices: kiosks, readers, and controllers that are cloud-connected and field-proven.
- Directory & SSO: Azure AD/Entra, Google Workspace, Okta.
- Calendars & messaging: Outlook/Google invites, email/SMS/WhatsApp for e-passes and reminders.
- Open APIs & webhooks: push visitor events to BI tools, SOC dashboards, or compliance archives.

Security & Compliance by Design

Data protection

Role-based access, audit logs, encryption in transit/at rest, configurable retention aligned to PDPA.

Identity assurance

Optional eKYC, document scanning, and watchlists for higher-risk visitor types.

Reliability

Cloud SLA, auto-failover, and offline-first modes at kiosks/guards to keep queues moving.

Typical Use Cases

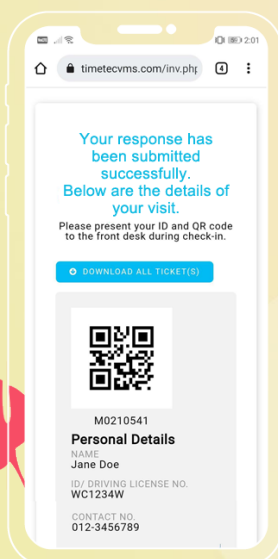
- Corporate HQs and campuses (multi-building, multi-tenant)
- Manufacturing & logistics (contractor management, safety induction)
- Mixed-use developments (office + retail + residential with shared car parks)
- Government & education (compliance and audit trails)
- Events & high-volume lobbies (temporary staff, peak-hour throughput)

Why TimeTec

TimeTec unifies access, parking, and visitor under one cloud, so you get a single source of truth for people movement—with less hardware, fewer vendors, and clearer accountability.



Manage All Type of Visitor Scenarios



Mobile Pre-Registration

Streamline the visitor process and improve your visitor experience.



On-The-Spot Registration

Improve efficiency and eliminate repetitive tasks.



Visitor Self Check-In

Reduce waiting time and congestion.

Visitor Management Features, Reinvented



Instant Notification

Hosts receive notification/intercom when a visitor checks in.



Health Declaration

Record health details for the safety of everyone.



Facility Booking

Book a meeting room with a confirmed visitor appointment.



Body Temperature Reading

Record visitor's temperature as a precautionary measure.



Calendar View

A centralized calendar filled with confirmed schedules and facility occupancy.



Multi In-Out Management

Approve multiple visits automatically or manually.



The Standard Features That You're Expecting



Intercom

Hosts receive an intercom when a visitor checks in.



Various Visitor Check-In Types

Visitors can register with a kiosk in the reception area.



Restrict Access

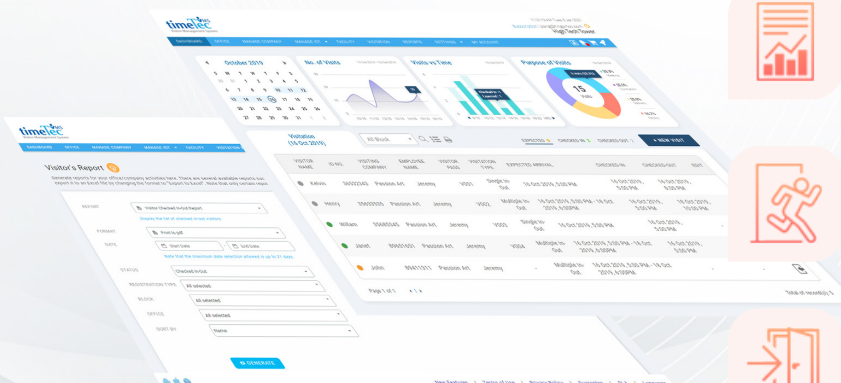
Block unauthorized visitors from the App or web.



Manage System Role

Flexible settings for your team to allow visitors.

Advanced Reporting and Security Control



Advanced Reporting

More than 10 visitor management reports.



Emergency Evacuation

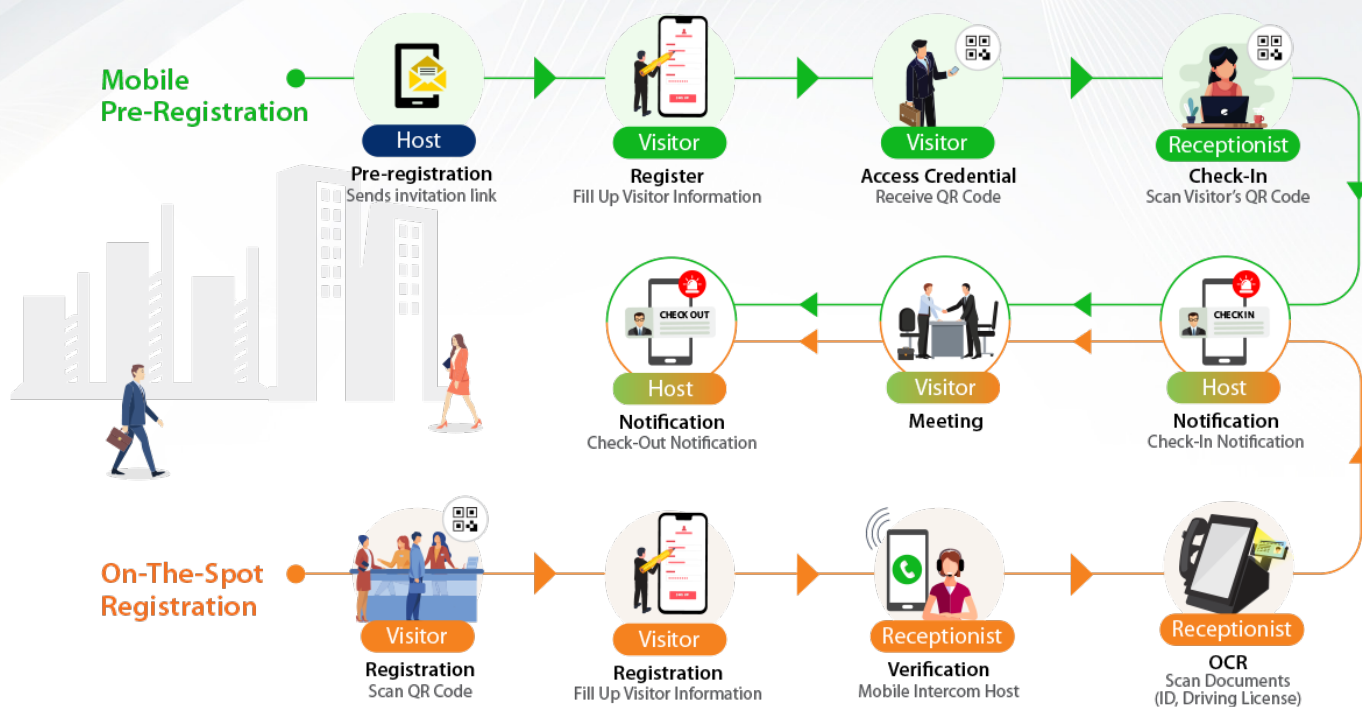
Automatically generates reports of visitors who haven't checked out of the building during an emergency.



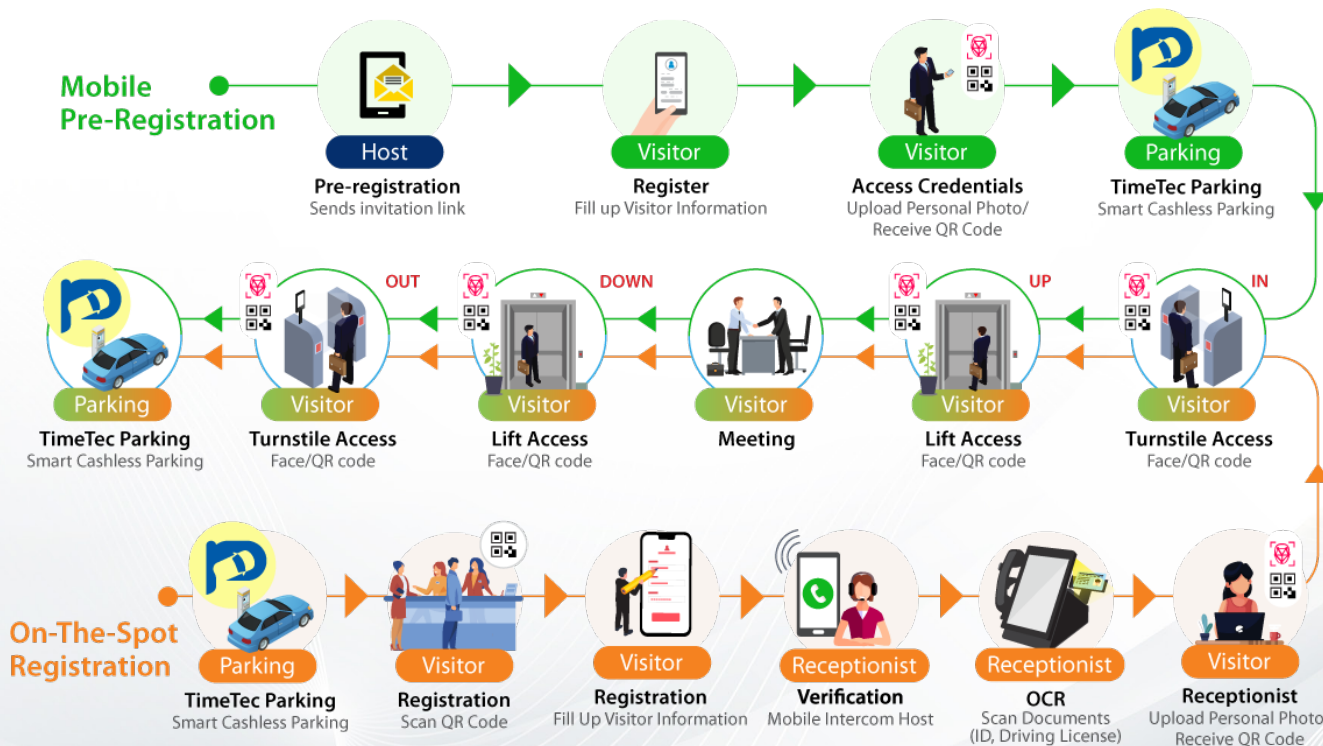
Manage Access Control

Customise visitor access level to allow limited credential access as specified.

Visitor Flow without Access Control



Visitor Flow with Access Control



Visitor Registration Device Options



timeTec

Guardhouse Tablet Panel

Don't compromise hospitality in the name of security. Obtain them both with the Guardhouse Tablet Panel. The panel comes complete with a Samsung Galaxy Tab 10.1 for guards to access an effective i-Visit App Visitor Management Module, an easy-to-use DIY tablet, and a phone receiver connected to the whole system to better improve overall guardhouse operations.



OCR

OCR helps to fill up visitor details by just taking a photo of the visitor's ID/ Driving License/ Vocational License/ Passport.



Mobile Intercom

Residents can pick up calls from guards directly with their mobile phones.



Auto Check In-Out Barrier Gate

Automatic barrier gate that only opens for registered visitors.



timeTec

Guardhouse Tablet Panel

NETWORK

Technology GSM / HSPA / LTE

BODY

Dimensions 254.2 × 155.3 × 8.2 mm

Weight 525 g

DISPLAY

Type PLS LCD capacitive touchscreen, 16M colors

Size 10.1 inches

Resolution 1200 × 1920 pixels, 16:10 ratio

MEMORY

Card Slot MicroSD, up to 256 GB (dedicated slot)

Internal 32 GB, 3 GB RAM

CAMERA

Primary 8 MP, f/1.9, autofocus, LED flash

Secondary 2 MP, f/2.2, 1080p video

SOUND

Alert types MP3, WAV ringtones

Loudspeaker Yes

3.5mm jack Yes

COMMS

WLAN Wi-Fi 802.11 a/b/g/n/ac, dual-band, WiFi Direct, hotspot

Bluetooth Bluetooth 4.2, A2DP, LE

GPS GPS: Yes, with A-GPS, GLONASS, Beidou

USB microUSB 2.0

BATTERY

OS Non-removable Li-Ion 7300 mAh battery

SDK Android 6.0

SOFTWARE Samsung Knox 2.8
i-Vizit App VMS Module



timeTec VKiosk-1

Self-Service Visitor Kiosk

The TimeTec self-service visitor registration kiosk, VKiosk-1, is an easy-to-use solution equipped with the TimeTec i-Visit app to streamline the check-in process for pre-registered or walk-in visitors in both commercial and non-commercial buildings. With a user-friendly touchscreen interface, visitors can register and verify themselves quickly upon arrival.

The trilingual TimeTec VKiosk-1 enhances security, reduces wait times, and improves visitor management efficiency. Additionally, the QR code or facial recognition can serve as a credential when integrated with access control systems and visitor logs, ensuring seamless tracking and reporting.



Streamlines Check-In Process

Reduces queues by allowing visitors to self-register quickly.



Generates Real-Time Insights

Provides instant digital logs of visitor arrivals and departures for improved reporting and analytics.



Reduces Operational Costs

Lowers labor costs over time by automating repetitive registration tasks.



Self-verifying

Visitors self-ID scanning (ICs, Passports) with built-in OCR technology.



Enhances Branding

Allows for customized interfaces that reflect the company's brand and promote a professional, tech-forward image.



Increases Staff Efficiency

Frees up reception staff.



Enhances Visitor Experience

Provides a modern, user-friendly interface for a smoother visitation and a better impression.



Strengthens Security

Can be integrated with QR code or face recognition readers for door and turnstile access control.



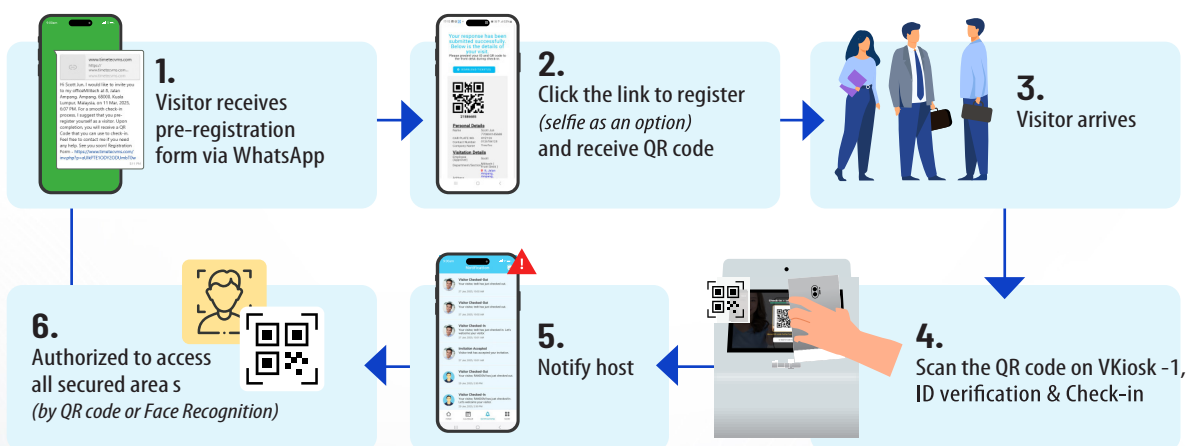
Improves Data Accuracy

Minimizes errors.

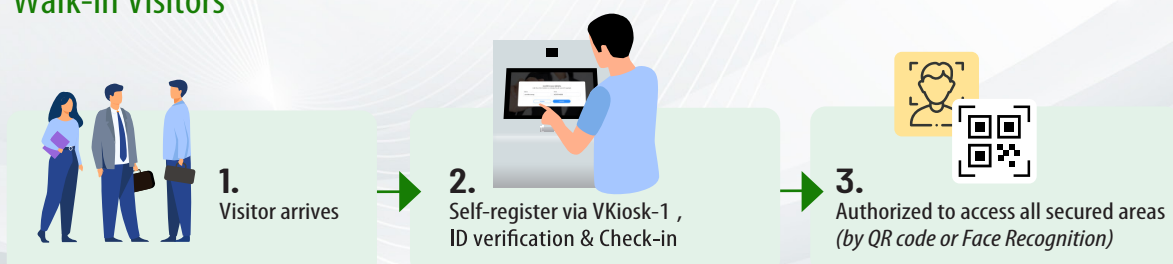
timeTec VKiosk-1

Dimension (L x W x H), mm	400 × 360 × 1435
Weight	22 kg
SYSTEM	
System OS	Android 13
Processor	RK3588, Quad-core Cortex-A76, 2.4 GHz
Memory (RAM)	8 GB
Storage	Android: 128 GB eMMC Flash
PANEL	
Size / Active Area (mm)	13.3" (16:9), 33.78 cm, Active matrix TFT LCD (LED) / 293.76 mm × 165.24 mm
Resolution / Contrast	1920 × 1080 (16:9)
Viewing Angle	Horizontal: 178° total / Vertical: 178° total
Color Depth/Brightness	16.7 million / 400 nits
Response Time / Freq	30 (Typ.)(Tr/Td) ms / Horizontal: 30–60 KHz / Vertical: 50–75 Hz
TOUCH	
Touch Technology / OS	PCAP (Projected Capacitive) – 10 Touch Capacity / Android
Surface Treatment	Water, Dust & Vandal proof; Optional: Anti-glare, Anti-fingerprint, Anti-smudge, Anti-bacterial
I/O PORTS	
Android	USB ×4 / COM ×2 / HDMI ×1 / LAN ×1 / WiFi ×1 / DC ×1 / TF-Card ×1 / Audio ×1 / 4G ×1
POWER	Supply / Consumption: 100–240 VAC / 12VDC ±5%; 20W typical, 1.5W sleep, 0.5W off
MECHANICAL	
ENVIRONMENTAL	
ACCESSORIES	Product Dimensions: 339.5×211×55.5 (A) 49.5 (S) mm / Weight (Unpacked/Packed): 3 / 4 kg Box Dimensions: 490 × 356 × 141 mm / VESA Mounting: 75 × 75 / 100 × 100 mm
OTHERS	Operating / Storage Temperature: –10°C to 50°C / –20°C to 60°C
SOFTWARE	Power adapter / cable, flush mount brackets w/screws (opt.) MTBF / Warranty / Enclosure Color: 50,000 hours demonstrated / 1-year / black silver Ready for Use: 24/7, A = Aluminum Back, S = Steel Back in above "Mechanical" i-Visit

Visitor Workflow Pre-registered Visitors



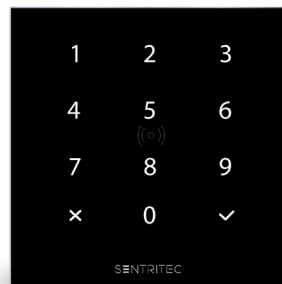
Walk-in Visitors



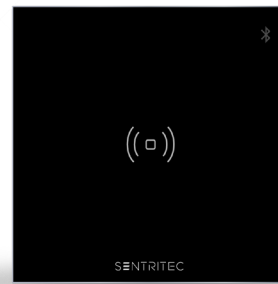
Access Control Devices available with Visitor Credential Options



**SentriTec
Face Edge 1**
(Page 30 - 33 for details)



**SentriTec
Access Neo 2**
(Page 42 - 44 for details)



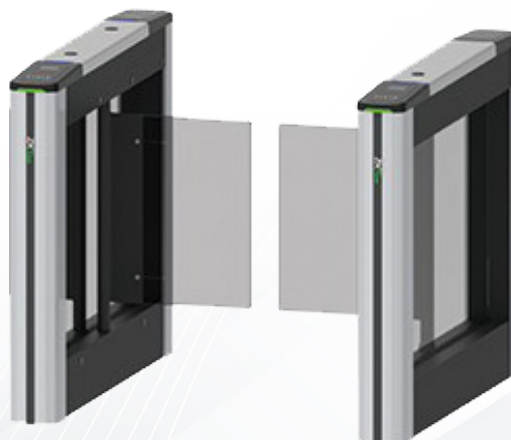
**SentriTec
Access Neo 3**
(Page 45 - 47 for details)



**SentriTec
QR110**
(Page 48 - 50 for details)



**SentriTec
LiftStation**
(Page 55 - 57 for details)



**ZKTeco
Saturn Plus Series**
(Page 58 - 60 for details)



Parking Management System: **TimeTec Parking**

**Smart, cashless, and connected parking for
every scenario – from self-park to valet**

TimeTec Parking is a next-generation, cloud-based parking management platform that replaces bulky, hardware-heavy setups with agile, software-driven control. It delivers real-time visibility, multi-site management, and seamless integrations—making parking more efficient for operators and more convenient for users.

Why TimeTec Parking

- Cloud-first, hardware-light: Manage all parking sites—including valet and enforcement operations—from one secure portal.
- Multi-payment convenience: Accept TnG, Setel, credit/debit cards, and eWallet Direct with ease.
- Real-time control: Adjust rates, manage bays, update passes, or override gates instantly.
- Lower operating costs: Reduce reliance on proprietary hardware with LPR and QR-based access.

Key Features



License Plate Recognition (LPR)

Ticketless, barrier-free entry/exit with automatic plate capture; works with eWallet Direct for instant, low-MDR payments.



eWallet Direct

A cashless, touchless feature that links directly with Setel, TnG, GoNet eWallets and Flexi App, delivering a superb parking experience.



Season Parking Management

Fully online application, approval, bay assignment, and auto-renewal.



Valet Parking Management

Digitize valet operations with plate scanning, valet ticket issuance (digital or printed), parking bay tracking, and real-time vehicle retrieval requests via app or kiosk.



Enforcement Module

Patrol with handheld devices to check parking validity, detect overstays, issue digital summons, and sync enforcement data instantly to the cloud.



Parking App

Provide White Label service



Promo Code

Support multiple merchant promo codes and validation, suitable for mall environment.



Parking Guidance

Provide video LPR and ultrasonic guidance system



Centralized Analytics

Live dashboards for occupancy, revenue, enforcement records, and peak-hour trends.



e-Invoicing Ready

Built-in compliance with Malaysia's LHDN e-Invoice for casual, season, and valet transactions.



Integration Friendly

Sync with TimeTec Access, Visitor Management, i-Account and property management systems.

How it Works

Entry

LPR scans plate grants access.

Parking Session

Real-time session tracking for self-park, valet, or reserved bays.

Payment

Auto-deduction from eWallet or pay-on-exit; valet fees managed in-app or at payment kiosk.

Exit

Automatic barrier lift upon payment confirmation; valet retrieves vehicle via system dashboard.

Enforcement

Patrols validate parked vehicles, issue notices, and update status instantly.



Benefits for Operators

Unified control

Manage self-park, valet, and enforcement in one system.

Higher uptime

Cloud monitoring, remote troubleshooting, and field-device sync.

Better compliance

Enforcement records linked to payment history for disputes and auditing.



Benefits for Users

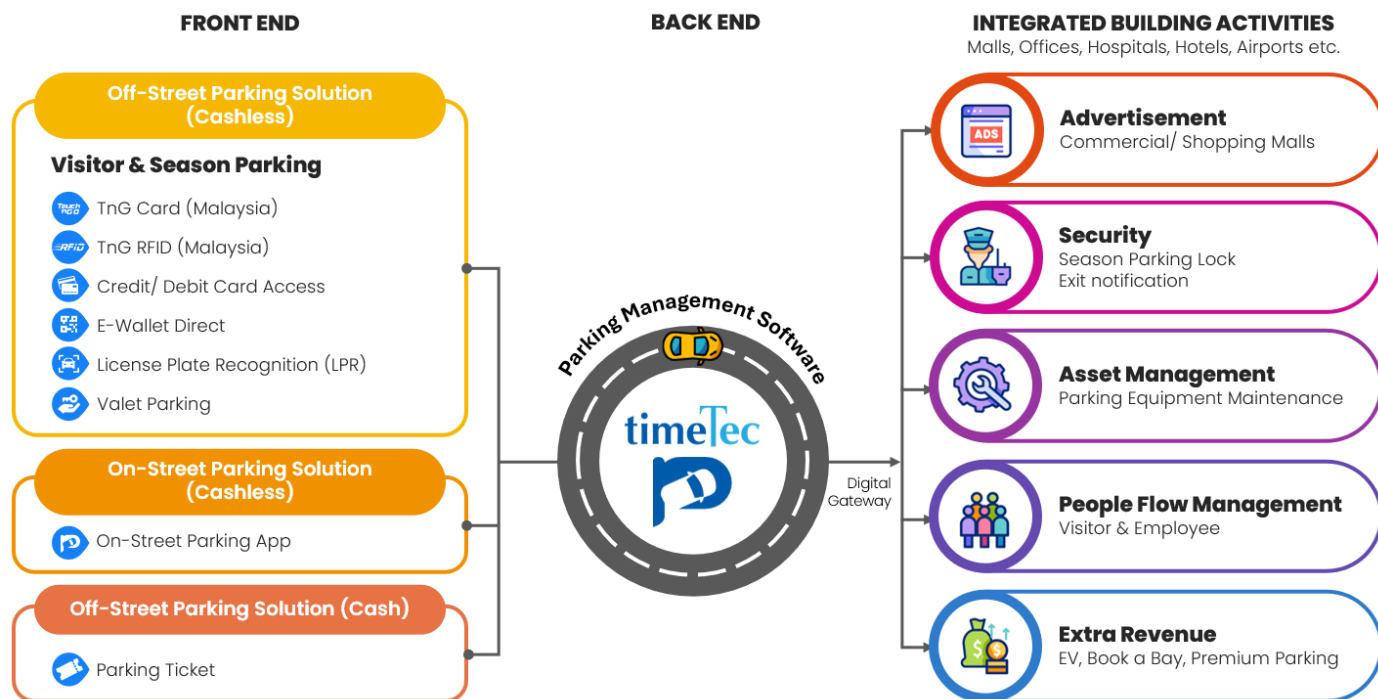
No tickets, no queues: Smooth self-park or valet experience.

Multiple payment options: eWallets, cards, or pre-linked accounts.

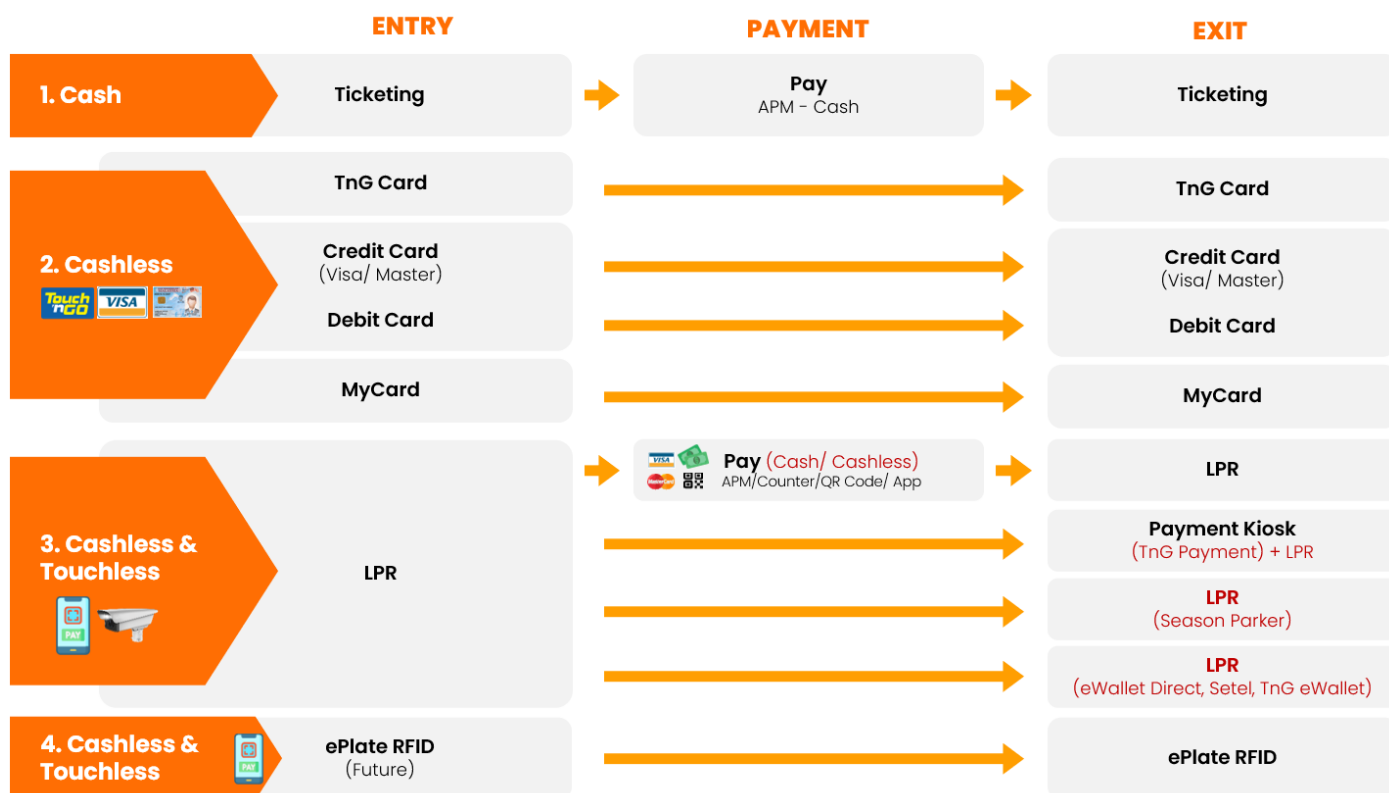
Transparency: Instant receipts, parking history, and dispute resolution.

Ecosystem Overview

Parking Ecosystem & Next Activities



Parking & Payment Methods



Parking Equipment

Payment Kiosk (TPK-2)



Parking Equipment Overview



Verification Method (LPR/UHF)

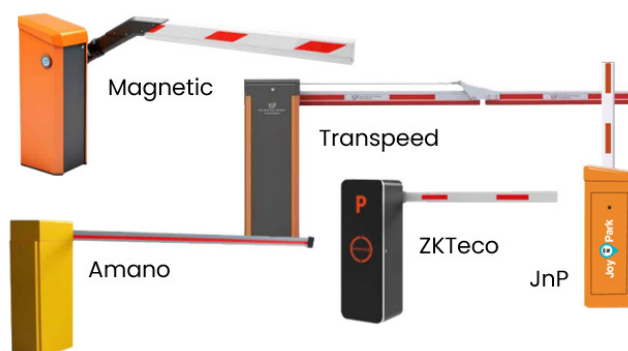


Payment Collection

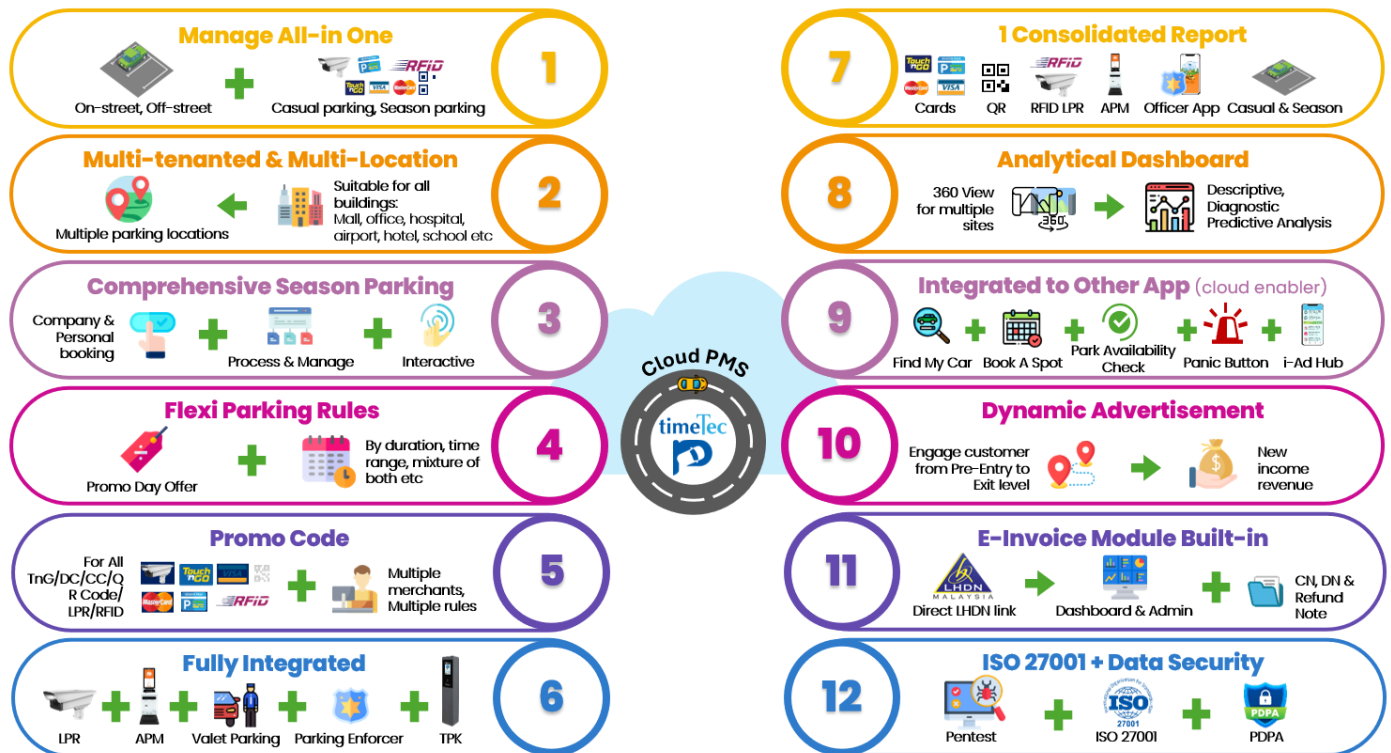
VPGS



Parking Barrier



Parking Management System Overview



Parking Management System UI





timeTec

TimeTec Season Parking System

Season parking allows car owners to park their cars regularly, near their home or workplace, at a fixed and always discounted monthly rate.

TimeTec Parking Management System for Season Parking Module provides the most comprehensive features that the market could ever offer.

Multiple Access Methods

Support TNG Card, RFID Card, QR Code, License Plate Recognition.

Parking App Available

QR code season parking access & alert user on renewal etc.

Online Application & Renewal

Including online transfer & termination.

Personal & Company Account

Personal booking or bulk purchase by company.

Cloud-Based

Real-time and accessible from anywhere anytime.

Analytic Dashboard

High-level analytical dashboard to provide trends of various metrics.

Built-In E-Invoice Module

E-Invoice module, links with LHDN MyInvois portal, complete with CN, DN and Refund Note.

Multiple Season Parking Rules

Support multiple and flexible season parking fee payment tiers and cycles.

Touchless With LPR

Support License Plate Recognition for touchless season parking access.

E-Form

Customizable online form and season parking rules & regulations.

Online Payment

Integrated payment gateway, payment on the web or App.

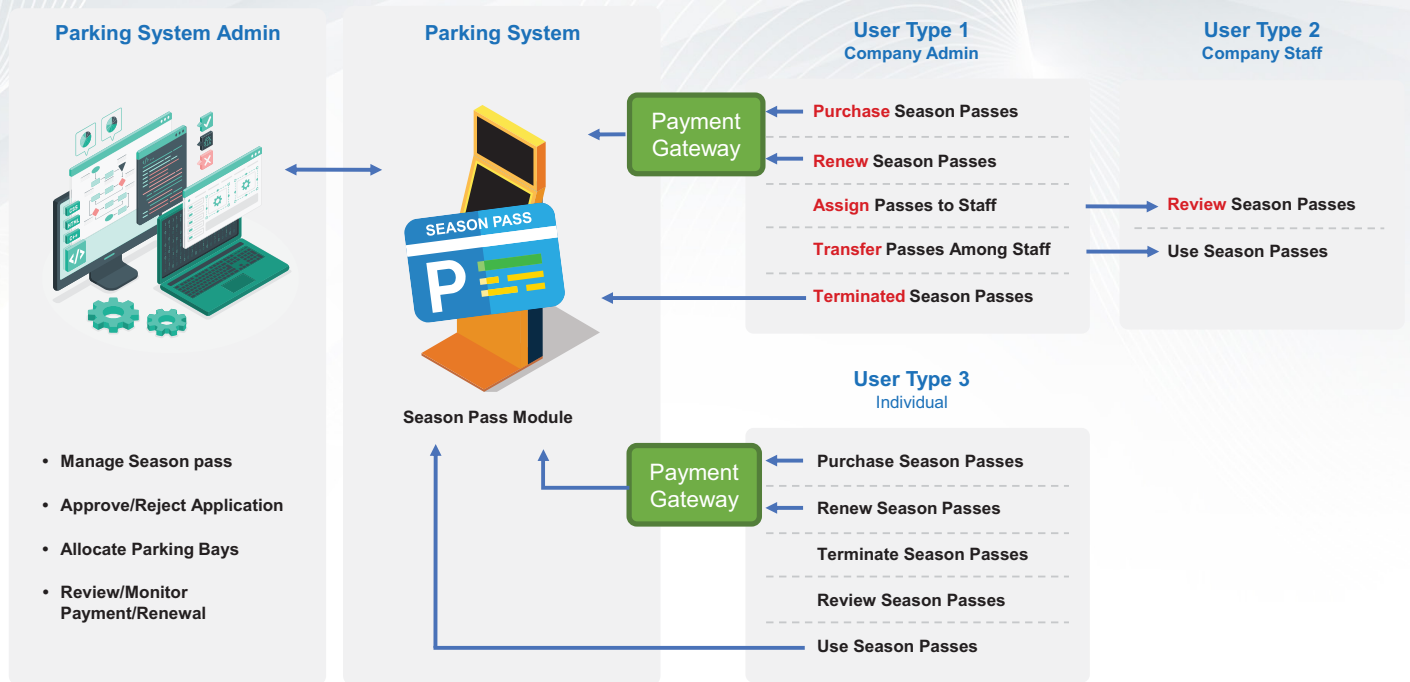
Integrated One-System

Besides season parking, support casual parking, valet parking etc.

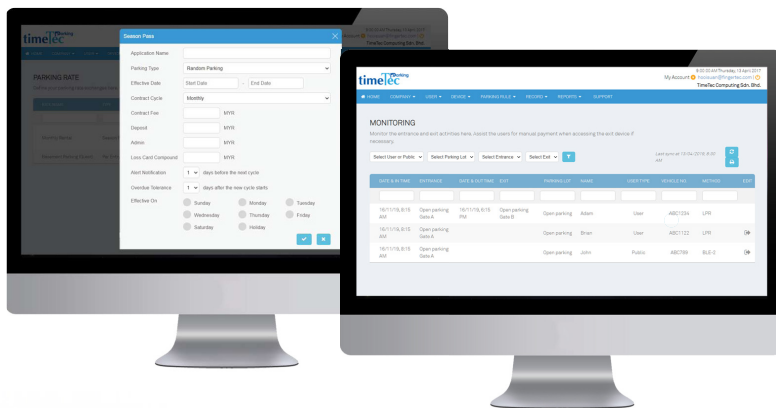
Comprehensive Report

More than 10 season parking reports.

System Diagram

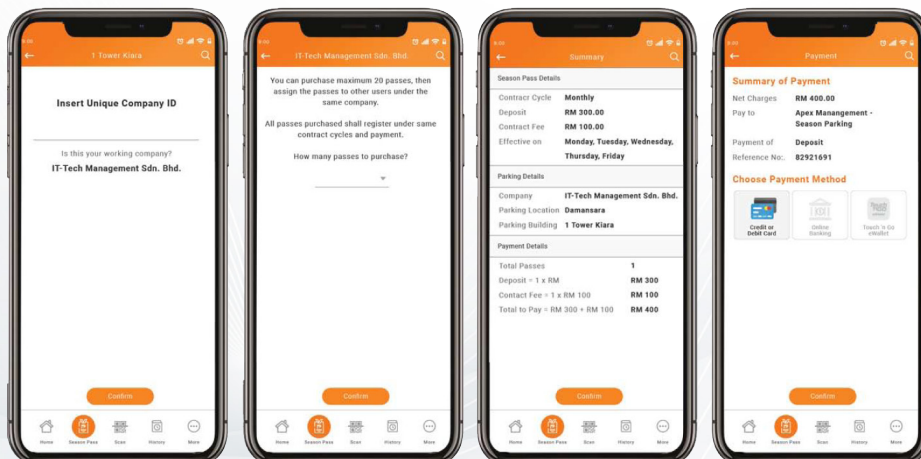


Admin Management



- Manage company accounts, as the assigned system admin role is allowed to purchase/renew/terminate season pass in bulk.
- Manage season pass holders from each company or public account.
- Set up parking floors and parking bays, season pass contract fees and payment cycles.
- Manage and assign season passes for a corporate or public account to different parking floors and bays.
- Approve or reject season pass application after a screening process.
- Provide comprehensive reports on registrations and collections.

TimeTec Parking App for Season Parking



User can purchase either individual or group season pass under company name and pay online.

timeTec

TimeTec Valet

Courtesy & Transparency

TimeTec Valet, a cloud-based valet parking system, helps valet parking business owners to eliminate the cash handling risk, increase the daily operational efficiency and provide better payment convenience to the valet customers.



Cashless

To reduce fraud in cash handling.

Multiple Payment Methods

Credit cards, debit cards, e-Wallets, with Scan & Pay option.

Consolidation

All parking revenues, including season, casual, enforcement and valet, under one TimeTec parking cloud platform for parking owners.

Cloud-Based

All records & transactions are updated in real-time.

Affordable

Zero CAPEX, rental based.

Portable

Weighs only 470 g (including battery).

Multiple locations

Supports Multiple locations for valet parking business owners.

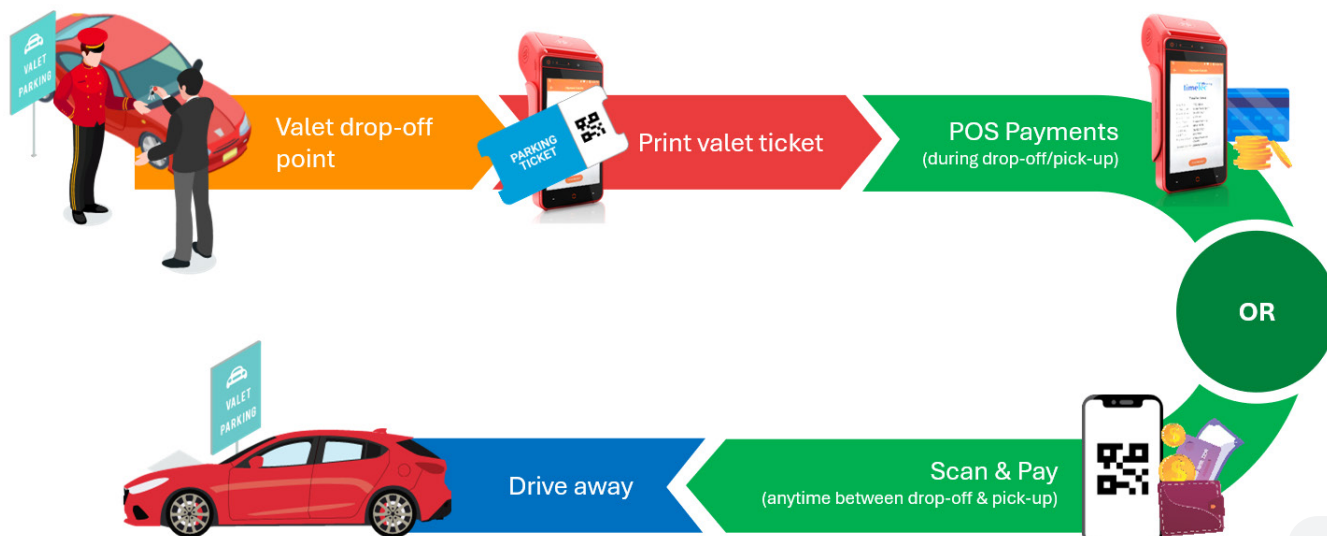
Fast deployment

Fast system setup and deployment.

Analytics

Track peak hours, parking duration per car, etc.

Valet Parking Handheld POS Payment Terminal With TimeTec Parking Officer App



timeTec TVP-1

TimeTec Valet POS

CPU

OPERATING SYSTEM

MEMORY

SCREEN

REAR CAMERA

PRINTER

NFC READER

COMMUNICATIONS

FINGERPRINT READER

ENVIRONMENT

SOFTWARE

Qualcomm Octa-Core ARM Cortex- A53 1.8GHz

Safedroid (Android 10)

2G RAM + 16G ROM

6.0 inch TFT IPS LCD

Multi-touch capacitive screen

Resolution: 1440 x 720

5MP AF Camera with LED flash

High-Speed Thermal Printer

58mm printing paper

40mm paper roll

NFC Reader

Supports 14443A / 14443B

4G

WIFI

Bluetooth

Semiconductor capacitance

256 x 360 pixel array

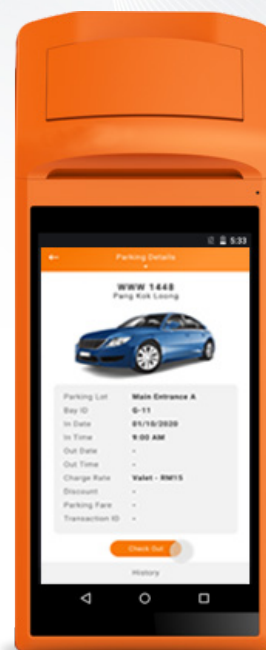
Operating Temperature: -10°C to 50°C

Storage Temperature: -20°C to 70°C

Humidity: 5% to 95% Relative

Humidity, Non-Condensing

Preloaded with TimeTec Valet App



Enforcement

Handheld POS Terminal With TimeTec Parking Officer App



timeTec IP Phone C63G/C63GP at Parking Office



Rich visual Experience

The C63G/C63GP is an entry-level IP phone, and the C63G/C63GP features a 2.4" high-resolution color TFT display with backlight, which takes visual effects to a new level. The freely programmable multi-color function keys provide users with a high degree of usability. Each function key can be configured for various one-touch phone functions such as speed dial, busy lamp field, etc.

Good Compatibility

Based on RFC3261, the C63G/C63GP has been tested to ensure good compatibility with leading IP telephony system and equipment. The C63G/C63GP not only supports DinStar UC/IPPBX products, also supports many third-party IPPBXs such as 3CX, Asterisk, NEC, Grandstream and so on.

High Quality Audio

The full duplex speaker and microphone system and the Digital Signal Processor (DSP) ensure that the C63G/C63GP delivers high audio quality. Whether you use the hands-free speakerphone or the handset, you will always have good experience and crystal-clear call quality.

- HD Voice
- Up to 6 SIP Accounts
- 2.8" 320 x 240 pixel TFT LCD with Backlight
- Dual-port Gigabit Ethernet
- Power over Ethernet
- Support EHS wireless headset (Plantronics, Jabra, Sennheiser)
- Stand with 2 adjustable angles
- Full Compatible with 3CX, Asterisk, Broadsoft, Freeswitch Platform etc.

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IP Phone C63G/C63GP

CALL FEATURES

6 SIP Accounts
Call Waiting
Call Forward
Blind/attended transfer
Call hold, Call mute, DND mode
Speed Dialing, Hotline
Redial, Call Return
Auto-redial, Auto-answer
Dial Plan
5-way conference
Peer Dialing

PHONE FEATURES

Adjustable Voice Volume
Selectable Ring Tones
XML Browser
Action URL/URI
Keyboard lock
Phonebook: 1000 Groups
Blacklist: 100 Groups
Call Log: 100 Logs
Support 5 Remote Phonebook URLs
LDAP
Support Multiple Languages
Support EHS wireless headset (Plantronics, Jabra, Sennheiser)

IP-PBX FEATURES

SMS, Voicemail, MWI
Music On-hold, Intercom, Multicast
Call Pickup, Call Pickup in Group
Anonymous Call
Anonymous Call Rejection

MANAGEMENT

Auto provisioning: FTP/TFTP/HTTP/HTTPS/PnP
Configuration via HTTP/HTTPS web

AUDIO

SNMP, TR069
Network capture
NTP/Daylight saving time
Firmware upgrade via web
Syslog
Configuration backup/restore
Equipment Management System (NMS)

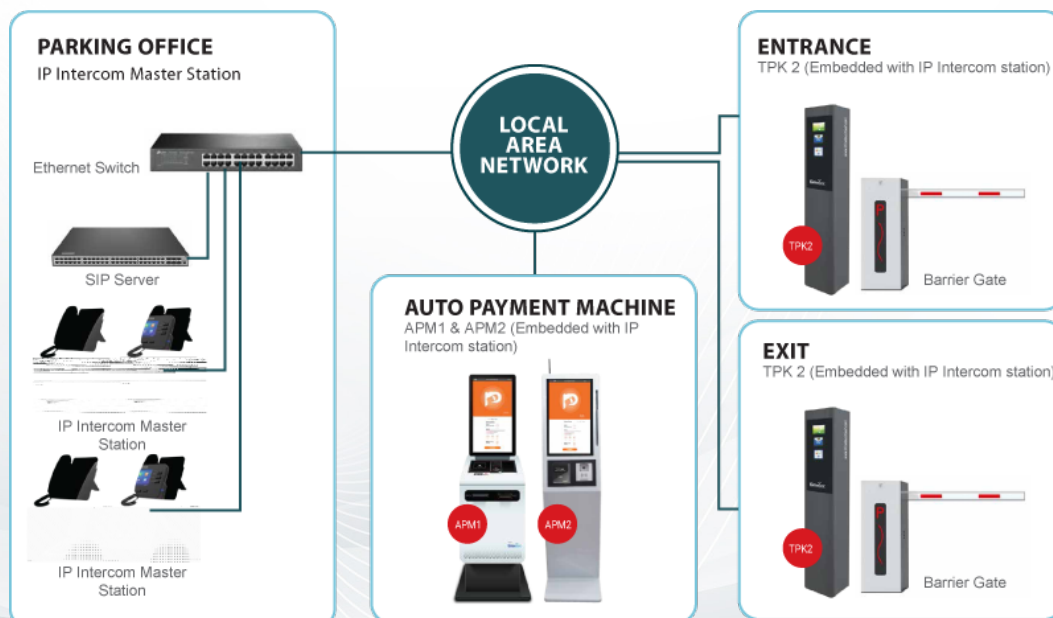
PROTOCOLS & STANDARDS

HD Voice
Wideband Codec: G.722, OPUS-WB
Narrowband Codec: PCMA, PCMU, G.729, G.723, G.726, AMR, OPUS, iLBC
Echo Cancellation/Dynamic Jitter
Voice Activity Detection (VAD)
Comfort Noise Generation (CNG)
Full-duplex Speaker
SIP v1 (RFC2543), SIP v2 (RFC3261)
SIP over TLS, SRTP
TCP/IP/UDP
RTP/RTCP, RFC2198, RFC1889
HTTP/HTTPS/FTP/TFTP
ARP/RARP/ICMP/NTP/DHCP
DNS SRV / A Query / NAPTR Query
STUN, Session Timer (RFC4028)
DTMF: In-Band, RFC2833, SIP INFO
LLDP
802.1X, OpenVPN

PHYSICAL FEATURES

Color 2.8" high-resolution screen (320×240)
Dual-angle foot stand: 40° and 55°
Dimensions (approx.): 201×203×42.5 mm (W×L×D)
w/o foot stand
Weight (approx.): device 550 g, foot stand 300 g
Input voltage: 5 VDC
Power supply: PoE or 5 VDC power adapter
PoE IEEE 802.3af
Handset: 4P4C, RJ9
Headset: 4P4C, RJ9
Extended interface: 6P6C, RJ12
Environmental: operation 0–40 °C; humidity 10%–95% (non-condensing)
2×RJ45 10/100/1000M Ethernet ports
Wall mountable

System Diagram



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IX-MV Video Master Station

Power Source	Power Source: 802.3af PoE
Communication	Communication: Handset Simultaneous Communication; Hands-free auto-voice actuation or PTT (push-to-talk)
Monitor	Monitor: 3.5-inch color LCD
Paging capacity	Paging capacity: Simultaneous to max. 5 zones and/or stations
Mounting	Mounting: Desktop with stand or wall mount
Wiring	Wiring: CAT-5e or CAT-6
Wiring distance	Wiring distance: 330'
Temperature	Temperature: 32–104 °F (0–40 °C)
Dimensions	Dimensions: 7-7/16" H × 9-13/16" W × 2-5/16" D
Weight	Weight: Approx. 1.81 lbs (820 g)



System Diagram



Central Control Center

- Runs the centralized intercom server and integrates with other security systems.
- Monitors real-time communications and alerts from all connected car park sites.

Car Park Sites (A, B, C, etc.)

- Each site is equipped with local intercom devices (for barrier control, booth communication, and emergency calls), CCTVs, and access control terminals.
- These devices communicate with the central control center via a secure IP/Network connection.

Network Connection

- Ensures reliable two-way communication between the central office and each car park site.
- Can be implemented over a dedicated private network or through secure VPNs over the internet.



timeTec

PPC -1 & PPC-2 Cameras

Extra Revenue with TimeTec Premium Parking System

TimeTec Premium parking System is an innovative solution designed to optimize parking management and enhance the user experience in high-demand parking areas. It combines advanced technology with strategic design to provide convenient, secure, and efficient parking services for premium spaces. By leveraging tools such as License Plate Recognition (LPR) technology, PPC-1 and PPC-2 Cameras, and seamless integration with TimeTec automated payment systems, premium parking simplifies operations while maximizing revenue.

This approach caters to urban environments, commercial centers, and other high-traffic locations, offering a barrier-free experience and tailored features like dynamic pricing, compliance with e-invoice standards, and robust analytics. Premium parking not only addresses congestion challenges but also delivers a superior parking experience, making it a valuable addition to modern infrastructure.

Designed for premium areas without barriers

Premium rates are automatically added to casual parking rates

Optional Availability Check LED Indicator

Find My Car on TimeTec Parking App

Integrates with TimeTec PMS (Parking Management System) and LPR (License Plate Recognition) system

Supports JPJ ePlate and car plate numbers from Malaysia, Thailand, and Singapore.

Premium Bay Availability Check on TimeTec Parking App

Backed by TimeTec Analytics for enhanced earnings analysis

Cost-efficient: One camera can monitor up to 6 bays

Compliant with e-Invoice standards

Visible red and green Light for PPC Cameras to indicate the availability of Premium Bays

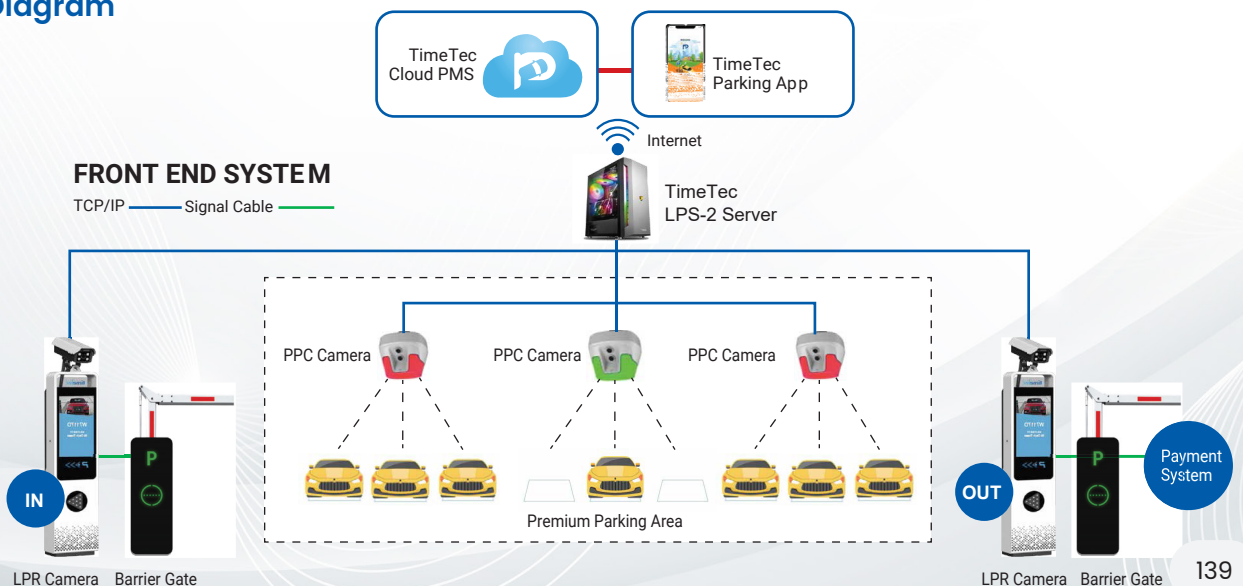
Expandable to Video Parking Guidance System (VPGS)

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PPC -1 & PPC-2 Cameras

BASIC	Model	PPC-1 Camera		PPC-2 Camera	
	Type	4MP, Single/binocular lens micro PTZ 3/6 parking space intelligent camera		4MP, Single/binocular micro pan tilt 3/6 parking space intelligent camera	
IMAGING VIDEO	Maximum resolution	2560 (H) X1440 (V)		2560 (H) × 1440 (V)	
	Compression standard	H.264		H.264	
AUDIO FREQUENCY	Voice Announcements	Support		Not support	
	Event sound prompt	Support and can customizable for upload		Not support	
LENS PTZ	Standard/optional	Optional 2.8mm, 4mm, 6mm fixed focus lenses		Optional 2.8mm and 4mm fixed focus lenses	
	Adjustment range	Manual micro PTZ table, angle range is -20° ~ 40°		Automatic micro cloud platform, support remote debugging, angle range is -20° ~ 40°	
INDICATOR LIGHT	Mutual control	Support external indicator light mutual control (7 colors: red, green, white, yellow, purple, dark blue, light blue)			
	Event light prompt	Support events such as line parking, foreign object occupancy, personnel detention, and non whitelisted vehicle occupancy			
ALGORITHM	Parking space occupancy recognition rate and speed	The occupancy recognition rate of parking space 99.8%, and the time for changing the lights of the parking space is 3 seconds after leaving/entering the venue			
	License plate recognition rate and speed	License plate recognition rate 99.6%, license plate recognition speed: 3 seconds after park steadily			
	License plate recognition type	Smart camera identification the same license plate, supporting unlicensed vehicles		Smart camera identification the same license plate, support unlicensed vehicles and international license plates	
	Vehicle structured data	Not supported		Supported, can recognize structured data of car brand, model, type, and color	
	Foreign object occupancy recognition	Support, can read two wheel vehicles, three wheel vehicles, shopping carts, and cone barrels			
	Person stagnation identification			Support	
	Automatically draw parking space line			Support	
	Line pressing parking recognition			Support	
	Bluetooth reverse car search	Support, providing Bluetooth positioning			
	Bluetooth controlled car lock	Support control Bluetooth car lock lifting (binocular cameras can support binding up to 6 floor locks, with a deployment distance of <10 meters)			
COMMUNICATION	Network Protocol	TCP/IP, DHCP, ARP, DDNS, HTTP, NTP, RTSP, ONVIF			
	Bypass network	Up to 128 devices for image transmission or 16 devices for video transmission			
	Bluetooth	Support BLE 4.2			
	Serial port	1 channel RS485			
RELIABILITY	Operating environment	Standard working voltage DC 12V/1A, supporting wide range power supply of DC 8~36V; Camera power consumption ≤ 3W, external light power consumption ≤ 2W; Temperature -20°C to 60°C			
	PoE	Standard PoE: Supports 802.3af standard PoE; Non standard PoE: Use non standard PoE combiner kit, supports up to 16 camera handles			
STRUCTURE	Size	112mm(L) x 112mm(W) x 95mm(H)		129mm(L) x 129mm(W) x 122mm(H)	
ADMINISTRATION	Service	Support for user management, PC management tools, SDK development kits			

System Diagram



timeTec

TimeTec PLock 2

Effortless Control for Premier Parking

Upgrade your parking experience with TimeTec PLock 2. This user-friendly system combines convenience and security for premier parking spaces. The PLock 2 provides SDK to integrate with smart parking apps, allowing users to reserve and manage the spot directly from your phone.

For parking bay owners, a remote control lets you open or close the parking lock with a single button. Grant access to your space or secure it when you leave.

The PLock 2 automatically locks your space after your car exits, preventing unauthorized use. Its pressure resistance feature triggers an alarm if someone tampers with it, ensuring your parking spot remains secure.

It's ideal for high-end residences, shopping malls, hotels, airports, and other commercial locations.



SLEEK DESIGN

Smooth, rounded design that won't damage your tires.



INTELLIGENT SAFETY

Anti-collision technology, automatically stops and sounds an alarm when encountering obstacles.



ENHANCED SECURITY

Internal security design to deter theft attempts and prevent unauthorized removal.



DURABLE CONSTRUCTION

Built with durable cold-rolled steel corrosion-resistant material.



REMOTE CONTROL

User-friendly remote control for effortless operation from a distance.



BLUETOOTH CONNECTIVITY

or leverage the Bluetooth connectivity with an SDK for integration with parking app.

timeTec

Plock 2

Dimension (LxWx H)	460mm x 400 mm x70mm
Weight	7.5kg
Material	Cold-rolled steel
Effective load	4000kg
Mechanism	Automatic operation for lock/unlock
Communication	Remote Control, Mobile App BLE Bluetooth Signal
Protection Grade	IP67
Rated Voltage	DC6V
Battery options	Dry alkaline battery/lithium battery/storage battery
Arm Ascent/Descent Time	6 second
Altitude after Arm Ascent	400 mm
Altitude after Arm Descent	70 mm
Operating Temperature	-10°C ~ +55°C
Quiescent Current	≤ 1 mA
Operating Current	≤ 1.5A
Development	SDK ready
Package comes with:	



1 x Remote Control



2 x Reflective Sticker



3 x Expansion Screw



1 x Charging Cable



Battery options

System Diagram





timeTec HC-1

Handheld RFID & OCR Reader

TimeTec HC-1 is a SIRIM-certified, rugged Android mobile reader designed to read RFID tags for Malaysia's JPJ e-Plate. It is built with a powerful processor, an 8000mAh battery, and robust UHF RFID capabilities. The device can be equipped with an Impinj E710 or R2000 circularly polarized antenna. Its ability to read tags in bulk from long distances makes it suitable for both authorities and commercial applications, including enforcement, compliance, fleet management, parking management, and vehicle registration.

TimeTec HC-1 also comes pre-installed with customizable Enforcement App, Officer App or Installer App which can be configured for various tasks such as JPJ ePlate validation, issuing compounds, and more. Additionally, the device is equipped with GPS for location tracking and a cloud-based, high-accuracy Optical Character Recognition (OCR) function for reading car plate numbers. The HC series Apps are integrated with HC administrative cloud-based management system, hosted on the Amazon Web Services (AWS) platform in Malaysia, making it easy to deploy.



Android



4G



WiFi



GPS



UHF



1D Barcode



2D Barcode



Camera

timeTec HC-1



PERFORMANCE Operating System

CPU
RAM + ROM
Expansion
COMMUNICATION
WLAN
GNSS
WWAN

Android 11/13; 90-days security updates; GMS/Ze-ro-Touch, FOTA, Soti MobiControl, SafeUEM supported
Cortex-A53 2.3 GHz Octa-core
3 GB + 32 GB / 4 GB + 64 GB (optional)
Supports up to 256 GB Micro SD (TF) card

IEEE 802.11 a/b/g/n/ac, 2.4G/5G dual-band, internal antenna
GPS/AGPS, GLONASS, BeiDou; internal antenna
2G: GSM850/GSM900/DCS1800/PCS1900
3G: WCDMA: B1/B2/B4/B5/B8; CDMA2000 EVDO: BC0; TD-SCDMA: A/F
4G: B1/B2/B3/B4/B5/B7/B8/B12/B17/B20/B28A/B28B/B34/B38/B39/B40/B41

PHYSICAL CHARACTERISTICS

Dimensions
Weight
Display
Touch Panel
Power

164.2 × 80.0 × 24.3 mm / 6.46 × 3.15 × 0.96 in
654 g / 23.07 oz
5.2" IPS LTPS, 1920 × 1080
Corning Gorilla Glass; multi-touch; gloves & wet-hands supported
Li-ion, rechargeable, 8000 mAh
Standby: over 500 hours
Continuous use: over 12 hours (depending on user environment)
Charging time: 3–4 hours (with standard adaptor and USB cable)
1 slot for Nano SIM card, 1 slot for Nano SIM or TF card
USB 2.0 Type-C, OTG, Type-C headphones supported
Light, proximity, gravity
Sound, LED indicator
1 microphone; 1 speaker; receiver
4 front keys, 1 power key, 2 scan keys, 1 multifunction key

Expansion Slot
Interfaces
Sensors
Notification
Audio
Keypad

USER ENVIRONMENT

Operating Temp.
Storage Temp.
Humidity
Drop Specification

-4 °F to 122 °F / -20 °C to 50 °C
-40 °F to 158 °F / -40 °C to 70 °C
5% RH – 95% RH non condensing
Multiple 1.5 m / 4.9 ft. drops to the concrete across the operating temperature range

Tumble Specification Sealing

ESD
DEVELOPING
ENVIRONMENT
SDK

Language
Tool

DATA COLLECTION

Camera
RFID (OPTIONAL) –
UHF
Engine

Frequency
Protocol
Antenna
Power

Max Read Range

Fastest Read Rate

Barcode Scanning (Optional)

1D Linear Scanner
1D Symbolologies

2D Imager Scanner

2D Symbolologies ACCESSORIES

Standard
Optional

1000 × 0.5 m / 1.64 ft. falls at room temperature
IP65 per IEC sealing specifications
±15 KV air discharge, ±6 KV conductive discharge

Software Development Kit
Java
Eclipse / Android Studio

13 MP autofocus with flash

CM710-1 module (Impinj E710); CM2000-1 module (Impinj Indy R2000)

919–923 MHz
EPC C1 GEN2 / ISO18000-6C
Circular polarization (4 dBi)
1 W (30 dBm, adjustable +5 dBm to +30 dBm); 2 W optional (33 dBm, for Latin America, etc.)

Impinj E710 chip: 26 m (Impinj MR6 tag, 70×15 mm)

28 m (Impinj M750 tag, 70×15 mm)

30 m (Alien H3 Anti-Metal tag, 130×42 mm)

1300+ tags/sec (circular polarization)

Honeywell N4313

UPC/EAN, Code128, Code39, Code93, Code11, Interleaved 2 of 5, Discrete 2 of 5, Chinese 2 of 5, Codabar, MSI, RSS, etc.

Zebra SE4710 / SE4750SR / SE4750MR / SE4750DP; Honeywell N6603 / CM60

PDF417, MicroPDF417, Composite, RSS, TLC-39, DataMatrix, QR Code, Micro QR Code, Aztec, MaxiCode; Postal codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX), etc.

AC adaptor, USB cable, etc.
Cradle, holster, etc.



TimeTec Maintenance

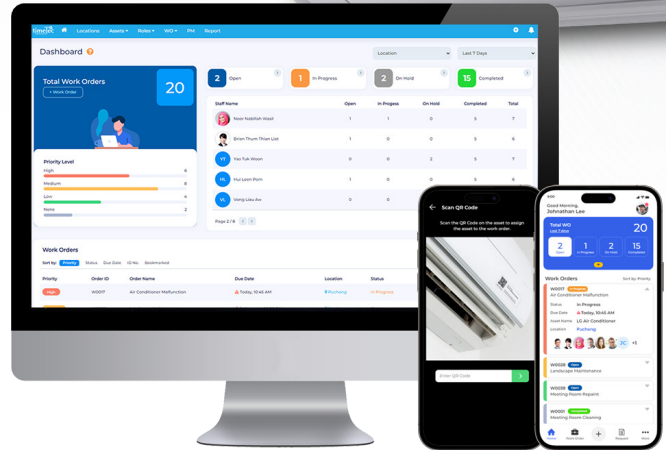
Cloud CMMS for Modern Facility Management

Plan, track, and measure maintenance from anywhere

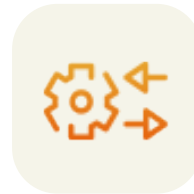
Introduction

TimeTec Maintenance is a cloud-based CMMS designed for the future of maintenance management. Facilities today demand intelligent, connected, and proactive solutions, and TimeTec Maintenance unifies asset, work order, vendor, and inventory management into a single powerful platform.

With web and mobile access, built-in automation, and AI-driven insights, TimeTec Maintenance empowers organizations to:



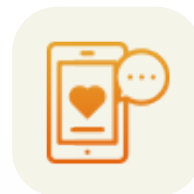
Minimize downtime
with predictive and preventive actions.



Extend asset lifespan
with full lifecycle tracking.



Improve accountability
through digital workflows and audit-ready records.



Empower teams
with mobility, automation, and real-time visibility.

Whether you're managing a single site or an entire nationwide portfolio, TimeTec Maintenance ensures operations run smarter, stronger, and more efficient—helping your assets perform at their best.

Why Choose TimeTec Maintenance

Beyond Traditional Systems

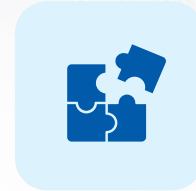
Unlike offline tools or generic CMMS, TimeTec Maintenance delivers:



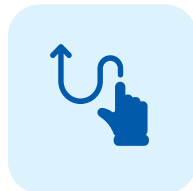
Real-time cloud access
with 99% uptime SLA



Scalable design
for multi-site, multi-asset
portfolios



**Seamless ecosystem
integration**
with tenants, vendors, IoT, and
accounting



Intuitive UX
for easy onboarding and
adoption



3-tier support
for fast resolution

Key Value



Efficiency
Automated workflows and
mobile updates



Cost Control
Preventive and predictive
scheduling reduces failures

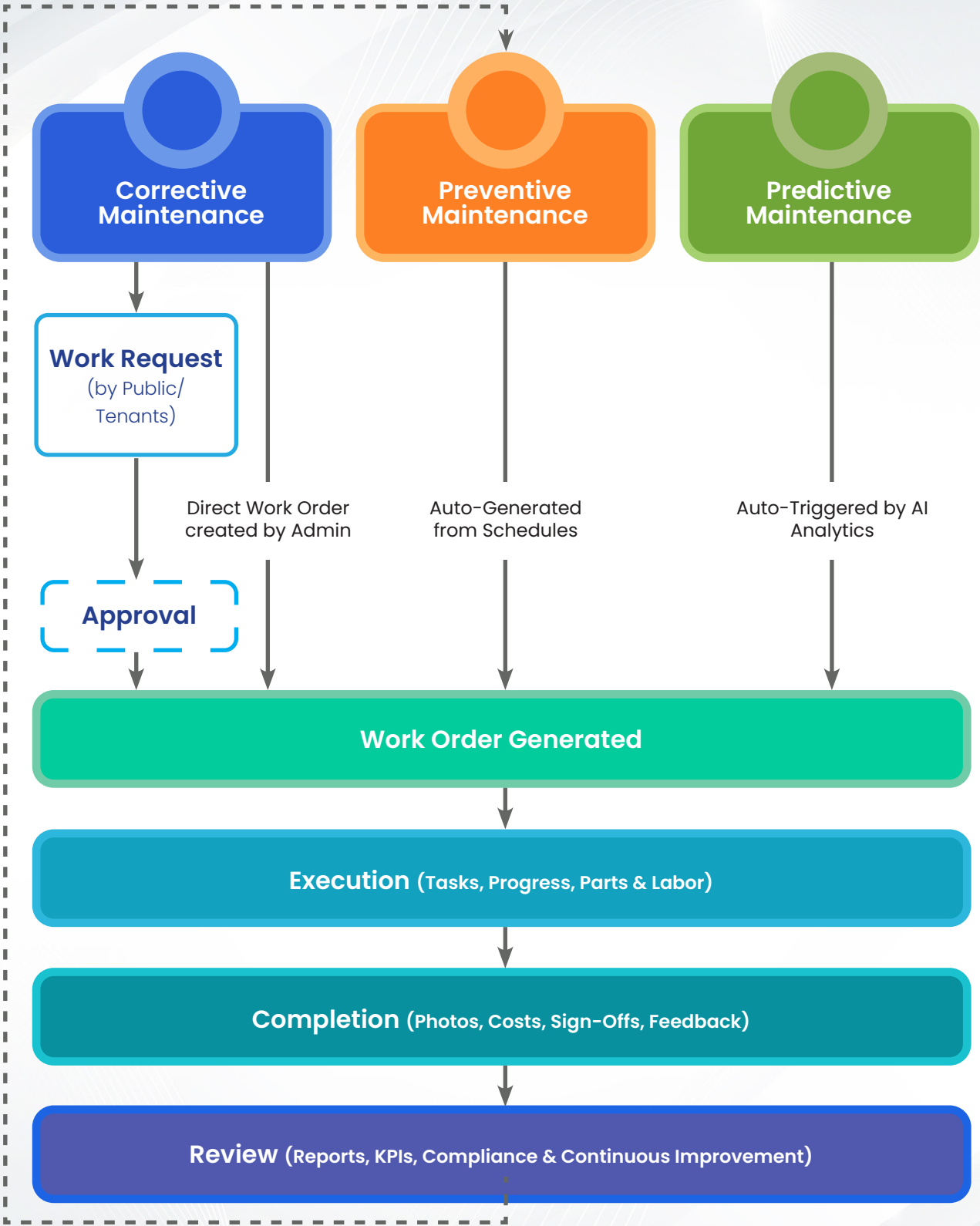


Insights
Custom dashboards and
reports



Flexibility
Adaptable to residential,
commercial, or industrial sites

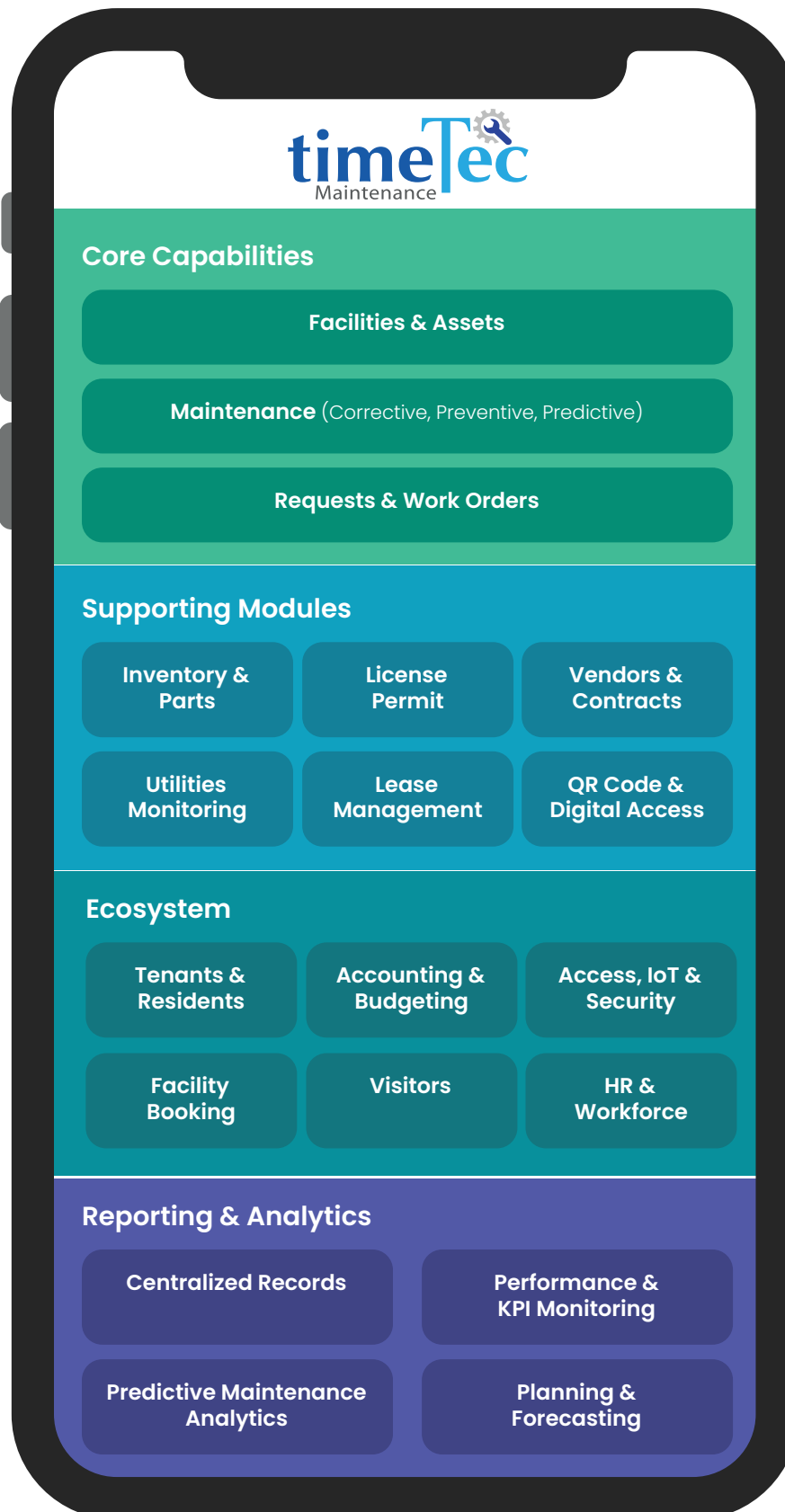
Overall Workflow



With TimeTec Maintenance, every job flows seamlessly from start to finish. Corrective requests, preventive schedules, and predictive alerts all generate standardized work orders, ensuring nothing is missed. Technicians and vendors execute with real-time updates, jobs close with costs, photos, and feedback, and powerful reporting turns results into continuous improvement.

The result: smarter maintenance, higher efficiency, and assets that perform at their best.

Features Summary



Core Capabilities

Facilities & Assets

Track assets from acquisition to retirement, monitor condition and depreciation, organize with parent-child hierarchy, and use QR codes for instant history access.

Requests & Work Orders

Accept requests from tenants, staff, or vendors; assign tasks by priority, technician, or location; enforce SLAs with escalation rules; and track labor, parts, and costs in a single workflow.

Maintenance

(Corrective, Preventive, Predictive)

Handle corrective repairs, schedule preventive tasks by calendar/runtime, and use predictive AI alerts. Digital checklists with photos and readings ensure accurate records, while recurring tasks auto-generate work orders.

Supporting Modules

Inventory & Parts

Central catalog, QR tagging, stock alerts, usage sync with work orders, partial approvals, and consumption reports.

License & Permit

Track and renew licenses/permits with automated reminders for compliance.

Vendors & Contracts

Manage vendor access, assign tasks, monitor performance, and link contracts to assets. Auto-generate work orders and track KPIs.

Utilities Monitoring

Measure water, electricity, and HVAC usage, and produce efficiency/sustainability reports.

Lease Management

Manage lease agreements, renewals, and conditions with financial integration.

QR Code & Digital Access

Generate QR codes for assets and areas, enable QR check-ins for staff/vendors, and allow public maintenance requests via QR scan.

Ecosystem

Tenants & Residents

Integrated with iNeighbour, TimeTec Building, and iTower for real-time issue reporting and feedback.

Accounting & Budgeting

Connect to iAccount for cost center tracking, invoicing, and budgeting.

Access, IoT & Security

Support QR access control, vendor check-in, IoT integration, and smart building monitoring.

Facility Booking

Block reservations during maintenance; auto-approve once work orders are completed and readiness checks pass.

Visitors

Auto-issue visitation tickets for maintenance vendors/contractors; sync vendor details to visitor profiles for access tracking and audit.

HR & Workforce

Manage roles, attendance, and schedules for technicians and service providers; feed performance into maintenance KPIs and SLA reporting.

Reporting & Analytics

Centralized Records

Unify records across maintenance, tenants, vendors, visitors, and facilities with compliance-ready audit trails.

Performance & KPI Monitoring

Measure SLA compliance, maintenance completion, vendor ratings, and supplier performance.

Predictive Maintenance Analytics

Forecast failures, analyze asset trends, and recommend proactive scheduling.

Planning & Forecasting

Budgeting, cost tracking, and scenario planning for long-term resource and asset management.

In Summary

Comprehensive Maintenance for Modern Facilities

TimeTec Maintenance is built for modern property managers, facility operators, and enterprises seeking a scalable, future-ready CMMS. By unifying corrective, preventive, and predictive maintenance with supporting modules, ecosystem integrations, and advanced analytics, it delivers a complete solution for today's complex facilities.

With smarter workflows, AI-powered insights, and seamless connectivity, TimeTec Maintenance enhances efficiency, strengthens accountability, and ensures assets deliver long-term performance and value.

TimeTec Maintenance is more than a CMMS — it's an intelligent ecosystem designed to keep every site, asset, and team connected and performing at their best.



Security Modules

Unifying access control, smart surveillance, and guard patrol systems into a single platform—strengthening safety, improving incident response, and ensuring peace of mind across the Smart Township.





Access Control System: **TimeTec Access**

Cloud Access Control: From Door Security to Business Agility

Access control has evolved far beyond keys, PIN codes, and RFID cards. Modern systems now integrate physical security with digital identity, offering credentials via biometrics, smartphones, QR codes, and even smartwatches. The focus has shifted from site-centric setups—where each location needed manual, on-site updates—to user-centric platforms where a single identity works seamlessly across multiple sites, updated instantly from anywhere.





Why Cloud Access Control?

Today's organizations operate across locations, time zones, and user types. Cloud access control replaces on-prem servers with a centrally managed platform, enabling:

- Remote onboarding/offboarding
- Instant access updates
- Real-time monitoring from web or mobile apps
- Integration with other cloud services

Beyond security, cloud access control supports coworking spaces, multi-tenant properties, and franchises by automating user enrollment, linking access to bookings or payments, and troubleshooting remotely—reducing overhead and improving user experience.

The Limits of On-Premise

On-premise systems still have strengths—total local control, no internet dependency, low-latency hardware integration—but these benefits often become bottlenecks. Scaling is costly, remote management is difficult, and updates require on-site IT.

For distributed, fast-moving businesses, cloud systems deliver agility, scalability, and a better user experience—without heavy infrastructure investment.

Cloud vs On-Premise Access Control

Feature	Cloud Access Control	On-Premise Access Control
Setup & Infrastructure	No local servers; minimal hardware	Requires dedicated servers & network hardware
Scalability	Instantly scalable across multiple sites	Scaling is costly and complex
Management	Remote via web or mobile app	Primarily on-site
User Onboarding/Offboarding	Instant, automated	Manual, often on-site
Software Updates	Automatic & included	Manual, requires IT
Integration with Modern Tools	Easy API & cloud service integrations	Limited without custom development
Operational Agility	Supports flexible work, remote troubleshooting	Fixed-location centric
Cost Model	OPEX-friendly subscription	High initial CAPEX
Downtime Risk	Internet dependency; has offline fallback	Runs locally without internet
Best For	Distributed, fast-growing, tech-integrated businesses	High-security, single-site, custom hardware setups

TimeTec Access + SentiTec

True Cloud-Native Access Control Without the Compromise

Not all “cloud access control” systems are created equal.

Some simply bolt a web dashboard onto old, on-premise infrastructure. Others move user data and rules to the cloud but still rely on outdated controllers and costly hardware.

TimeTec Access, powered by SentiTec’s smart devices, is different—it’s built from the ground up for the cloud era: agile, scalable, and incredibly simple to deploy.

Three Generations of Cloud Access Control

Level 1

Cloud-Managed *(On-Prem in Disguise)*

- Traditional system hosted off-site, still requires dedicated servers and per-site manual setup.
- Core logic remains siloed, limiting real-time sync and scalability.

Level 2

Cloud-Hosted *(Traditional ACaaS)*

- Credential management in the cloud, but still tied to local door controllers.
- Adding doors = more controllers = higher cost and complexity.

Level 3

Cloud-Native Where TimeTec Access Leads

- No controllers. No server rooms. Just SentiTec edge readers connected directly to the cloud via standard IP.
- Access logic processed locally in each smart reader, with instant sync across all locations.
- Works seamlessly across offices, warehouses, retail outlets, and remote facilities—one system, one identity, anywhere.

Why TimeTec Access + SentiTec Wins

01

Fast, Scalable Deployment

Install a SentiTec reader, connect to the network, you’re live—no sync tools, no manual data pushes. Expand from one door to hundreds without rewiring or re-enrolling users.

02

Intelligent Edge Processing

Built-in relays and processors let each reader make instant decisions, even if the internet drops.

03

Seamless Multi-Site Management

A single cloud platform governs all locations, with real-time credential updates and access logs—no duplication.

Next-Gen Biometric Experience

TimeTec Access handles SentiTec biometric devices natively—
no third-party workarounds

- Face & Fingerprint Recognition with AI-driven anti-spoofing at the edge
- One-step facial enrollment (in-person or remote selfie)
- Real-time propagation of biometric data to all readers instantly

The Result

A future-proof access control ecosystem that's faster to deploy, easier to manage, and built to grow with your business—whether you have one door or a thousand.

With TimeTec Access and SentiTec, cloud access control finally lives up to the promise.

Advanced & Flexible Access Control System



Multiple Access Points

Safeguard doors, elevators, barrier gates, turnstiles or any control points.



Temporary Pass

Generate temporary passes with a limited time range and access level.



Alerts & Notification

Get notified for access approvals, smart devices plus access related notifications.



Flexible Access Time

Restrict user access time range for each control point.



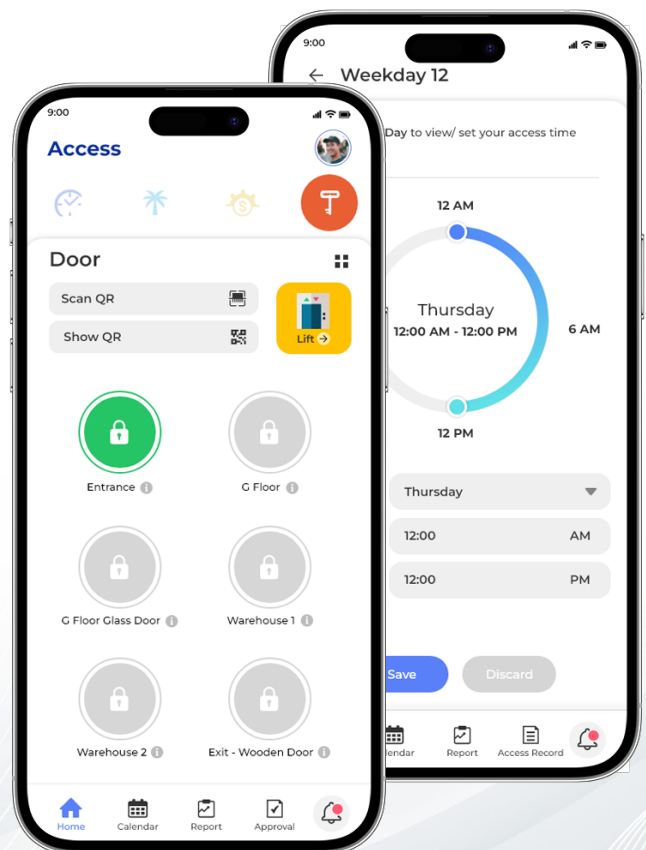
Anti-Passback

Anti-passback even from a different location with cloud security.



Various Access Methods

Mix and match between fingerprint, facial recognition, QR code or mobile phone.



Access Control & Security Management



Manage Users & Hierarchy

Managers can assign team and visitor access control.



Real-Time Monitoring

Monitor everyone's last access data and premise security from a dashboard.

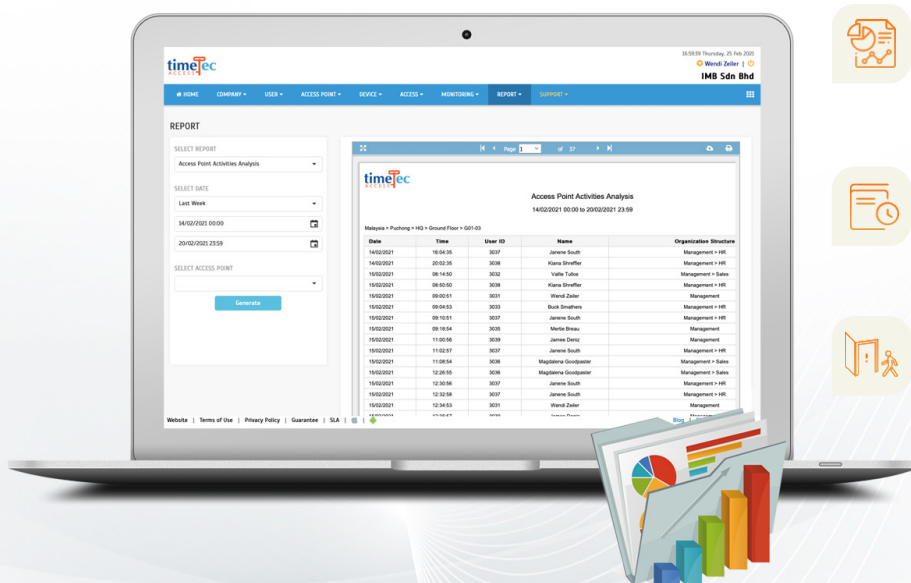


Manage Access Group & Time

Advanced settings for user access level and timeframe for access.



Access Analysis & Reports



Access Activities Analysis

Real-time activity analysis to notify admins of any abnormal access.



Advanced Reporting

More than 10 advanced real-time reports for premise security.



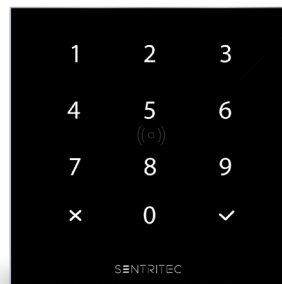
Fire Roll Call

Notify users immediately of the nearest exit routes during an emergency.

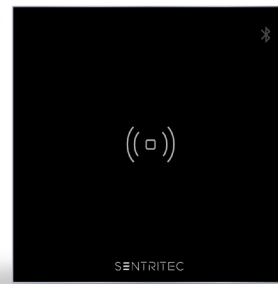
Enhanced security with TimeTec ELV & IoT Devices



**SentriTec
Face Edge 1**
(Page 30 - 33 for details)



**SentriTec
Access Neo 2**
(Page 42 - 44 for details)



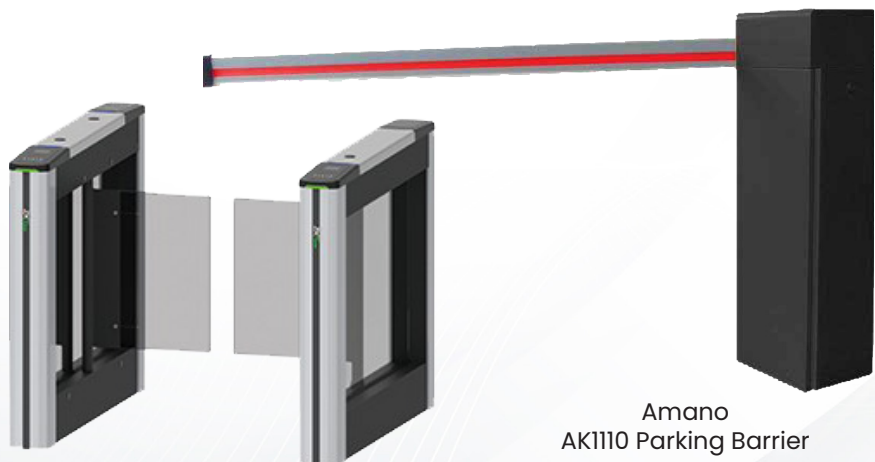
**SentriTec
Access Neo 3**
(Page 45 - 47 for details)



**SentriTec
QR110**
(Page 48 - 50 for details)



**SentriTec
LiftStation**
(Page 55 - 57 for details)



**ZKTeco
Saturn Plus Series**
(Page 58 - 60 for details)

**Amano
AK1110 Parking Barrier**
(Page 75 - 76 for details)



IP Surveillance: **TimeTec Surveillance**

TimeTec Surveillance redefines modern security by seamlessly integrating multi-source video inputs with cloud-based monitoring and analytics. As part of the expansive TimeTec Cloud City ecosystem, it delivers intelligent, end-to-end surveillance for residential, commercial, and public spaces—enabling proactive safety, operational efficiency, and data-driven insights.

Core Features & Capabilities

Cloud-Native, Multi-Source Video Integration

Whether you're using IP cameras, webcams, smartphone cameras, solar powered units, LPR (license plate recognition) systems, or VPGS (video parking guidance systems), TimeTec Surveillance accommodates them all—providing flexibility and scalability for diverse environments.



Beyond Simple Video:

Deep Surveillance Intelligence

This platform goes further than mere footage capture. It integrates with cloud applications across the TimeTec ecosystem—delivering services such as host alerts, vehicle image capture, people counting, and analytics for smarter, more proactive security management.

Smart Analytics & Real-World Use Cases



Host Alerts & Visitor Monitoring

Receive real-time alerts and image snapshots of guests or vehicles to the host's mobile device or dashboard, aiding in effective visitor flow and access control.



LPR & VPGS Integration for Parking Management

Enable license plate recognition for touchless access control, seamless parking experiences, and integration with TimeTec Parking for operations like visitor passes or promotional offers.



People Counting & Smart Building Management

Monitor building occupancy, set alerts for overcapacity, and optimize HVAC usage based on real time foot traffic—enhancing safety and energy efficiency.



Perimeter & Smart Home Surveillance

Establish robust perimeter protection with thermal cameras for all lighting conditions, or add motion detection with siren triggers and access control integration for smart homes and offices.



Advanced Video Analytics

Harness visitor behavior tracking, access pattern analysis, real time alerting, identity detection, and dynamic situational awareness to streamline investigations and boost security effectiveness.

How TimeTec Surveillance Works?



Why TimeTec Surveillance?

Fully Cloud Based Accessibility

Manage and monitor your entire video surveillance system remotely—anytime, anywhere.

Ecosystem Integration

Works cohesively with TimeTec solutions (e.g., Parking, Access, Patrol, Analytics, Smart Building/ Home), offering unified management through a single super app.

Scalable & Future-Ready

Designed for both small-scale deployments and large smart city environments, this solution grows with your needs.

Versatile Device Support

Compatible with ONVIF-compliant hardware and many CCTV brands—ensuring adaptability across camera types and vendor ecosystems.

Use Cases

Visitor Management for Residential and Commercial Buildings



To send the host the image of a drive-in visitor's vehicle captured at the checkpoint.



To send the host the image of a walk-in visitor captured at the checkpoint.

Benefits:

- Deter surprise visits and potential intruders.
- Serve as a security record.
- The super app can call/report to the guardhouse in case of a stranger or an unidentified vehicle.



i-Vizit



iTower



Building



Visitor

License Plate Recognition (LPR) System



Allow registered cars access to residential and commercial premises.



Integrate with TimeTec Parking for casual and season parking management.

Benefits:

- Achieve a seamless cashless and touchless parking experience.
- Integratable with multiple TimeTec solutions for subsequent activities such as visitor management, promo code etc.



Parking



iTower



Building



i-Vizit

Vehicle Monitoring



Monitor vehicle flow and capture vehicle images at the entrance and exit lanes of premises.



Serve as surveillance for the parking site.

Benefits:

- Serve as a security record and precaution.
- Prevent car theft.
- Record any incidents at the parking site as proof.



Parking



iNeighbour



i-Vizit



Building

Video Parking Guidance System (VPGS)



Parking



LPR



Allow users to find their cars in the car park by typing the car plate number at the kiosk or mobile app.



Provide guidance for parkers to find parking space in a large parking site.



Facilitate parking operators to charge premium parking rates for casual parking on the same floor.

Benefits:

- Ease traffic jams at the parking site.
- Enhance security at the parking site.
- Increase parking operator income by charging premium parking rates.

People Counting



Building



Count the number of people flowing into a building.



Set maximum occupancy alerts in certain areas at specific times.



Integrate with the building management system to optimize HVAC consumption based on people counting.



Integrable with loudspeakers or turnstiles to maintain the audience at a certain level.

Benefits:

- Improve energy efficiency for smart building management.
- Avoid overcrowding in certain areas for safety precautions.
- Enhance people's experiences while optimizing costs.

Smart Building Surveillance



Building



iTower



Allow residents or office tenants access to certain cameras installed in common areas via apps.



Integrate live views into the building management system to facilitate management monitoring.

Benefits:

- Consolidate surveillance in one super app.
- Consolidate surveillance in one backend building management system.

Perimeter Surveillance



Building



Patrol



Detect intrusions at the perimeter along a fenced site.



Use fixed thermal cameras to provide excellent long-range coverage.

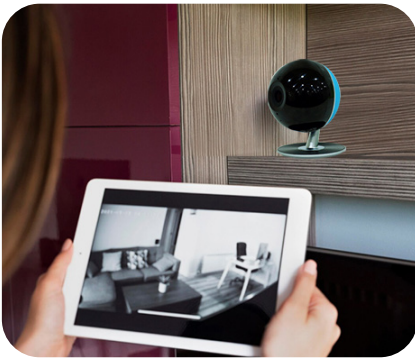


Enable detection in all lighting conditions, including complete darkness.

Benefits:

- Early intrusion detection and alerts to prevent burglary.
- Automatic responses, such as audio messages sent from hornspeakers, to deter intruders.

Smart Home Surveillance



i-TimeTec



Access



Provide motion detection alerts.



Integrable with a siren system.



Integrable with an access control system to auto-record abnormal access events, such as force openings.



Integrable with TimeTec Patrol for guards' monitoring.

Benefits:

- Enhance security for unit owners.
- Automatically trigger alerts to the guardhouse and patrol guards on duty.

Video Analytics



Analytics



Include visitor analysis, access control analysis, video analytics, identity detection analysis, facility access analysis, and vehicle flow analysis.

Benefits:

- Automate surveillance.
- Improve crime detection and prevention.
- Accelerate investigations.
- Attain dynamic situational awareness.
- Drive real-time proactive alerting.

IP Surveillance System



Dome Network Camera
IPC324LB-ASF28K-A
(Page 78 for details)



Bullet Network Camera
IPC 2124LB-ASF28(40)K-A
(Page 79 for details)



Network Video Recorder
NVR 308-X Series
(Page 80 - 81 for details)

In Summary

TimeTec Surveillance transforms video monitoring into a dynamic, cloud-driven component of smart management. By combining flexible camera inputs, robust analytics, and full integration within the TimeTec Cloud ecosystem, it delivers intelligent, scalable, and user-friendly surveillance that adapts to evolving security challenges.



SECURITY



Guard Patrol:

TimeTec Patrol

Cloud Guard Patrol System for Modern Security Operations

TimeTec Patrol is a cloud-based guard tour management system designed to digitize and streamline patrol operations for security service providers, building managers, and facility owners. It replaces manual logbooks and fragmented reporting with a centralized, real-time platform accessible from any device—ensuring higher accountability, transparency, and operational efficiency.

With TimeTec Patrol, you can monitor guard movements in real time, track checkpoint scans, verify patrol schedules, and receive instant alerts for missed tours or incidents. The system empowers supervisors to make data-driven decisions, while clients gain confidence through transparent, verifiable reports—all hosted securely in the cloud without the need for expensive on-site servers.

Key Features



Cloud-Native Patrol Management

Access patrol data anytime, anywhere. No software installation needed—just log in from your web browser or mobile app.



Smart Mobile App for Guards

Guards use a simple mobile app (with NFC, QR code, or GPS checkpoint scanning) to record patrol activities, incidents, and photo evidence instantly.



Automated Reports

Generate comprehensive patrol logs, incident summaries, and performance analytics for management or client review with a single click.



Client Transparency

Share patrol records and incident reports with clients through secure cloud access, building trust and service credibility.



Real-Time Tracking & Alerts

Monitor guard locations and checkpoint scans in real time, and receive instant notifications for missed checkpoints, delayed patrols, or emergency situations.



Incident Reporting

Allow guards to capture photos, videos, and descriptions of incidents on the spot, ensuring accurate and timely documentation.



Customizable Patrol Schedules

Set flexible routes, patrol frequencies, and duty rosters to match site-specific security requirements.

Benefits



Enhanced Accountability

Every patrol is tracked, verified, and time-stamped, reducing negligence and disputes.



Cost Efficiency

Eliminates the need for paper-based logs, reduces administrative time, and cuts IT maintenance costs.



Operational Visibility

Supervisors can manage multiple sites from a single dashboard.



Scalable & Flexible

Suitable for a single building or a nationwide security operation.

TimeTec Patrol Highlights

Improve Your Premises Security & Engagement



Routes, Checkpoints & GPS Tracking

Pre-set checkpoint-specific questions and tasks for guards upon check-in, ensuring better tracking of risks unique to each route.



Checkpoint Questions & Tasks

Guards can receive ad-hoc requests during the tour.



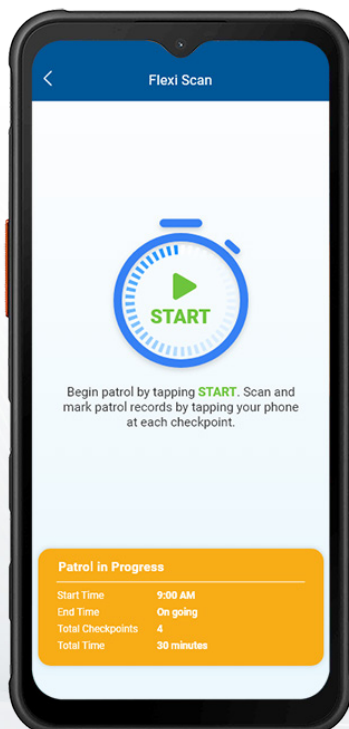
Report Incidents

Guards can report and document any unusual activities or incidents using pictures, videos, and audio messages.



Lone Worker Monitoring

Unchanged GPS location during patrol prompts a response, failure to respond triggers an SOS to the team.



Panic Button

In an emergency, guards can trigger alert that sends GPS location and pictures to management for immediate assistance.



Offline Mode

Record patrol data when there is no service or signal, and auto-sync once the connection is reestablished.



Notification Alert

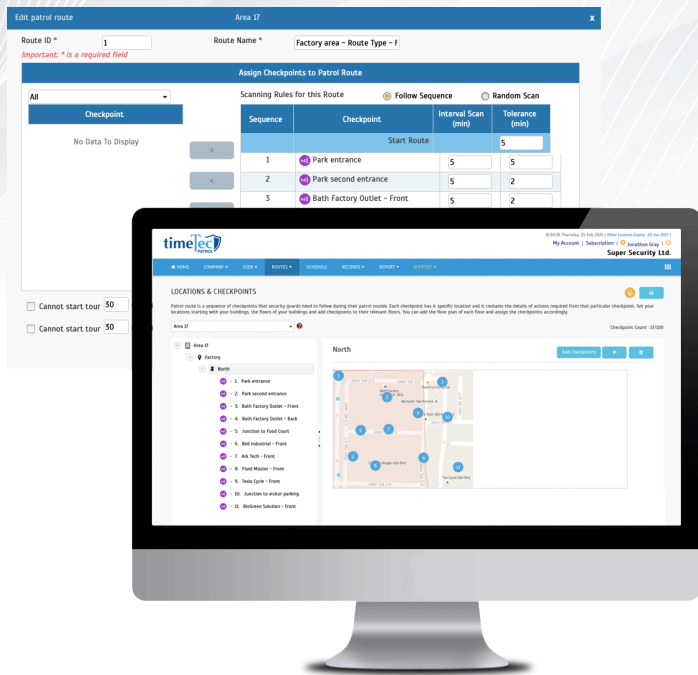
Receive notification alerts if guards are late or too early for each checkpoint.



Live Location Tracking

Check guard's locations and provide a trail on the map indicating the path which the guard follows.

Simplify Patrol Management



Routes & Checkpoints Setup

Set a fixed patrol route for guards or request to patrol at random routes.



Tardiness Settings

Set a range for guards or receive alerts if guards patrol out of scheduled time.



Incident Management

Manage each incident and assign a different PIC for different matters.



Geo-Fencing

Alert the supervisor when the guards are outside of the area.



Real-time Monitoring Dashboard

Get all details in real-time, track guards and patrol records anytime, anywhere.



Manage Security Guards & Employees

Manage guards' accessibility and hierarchy.

Advanced Reporting & Patrolling Data



10+ Patrol Reports

More than ten automated reports, showing only the data you require.



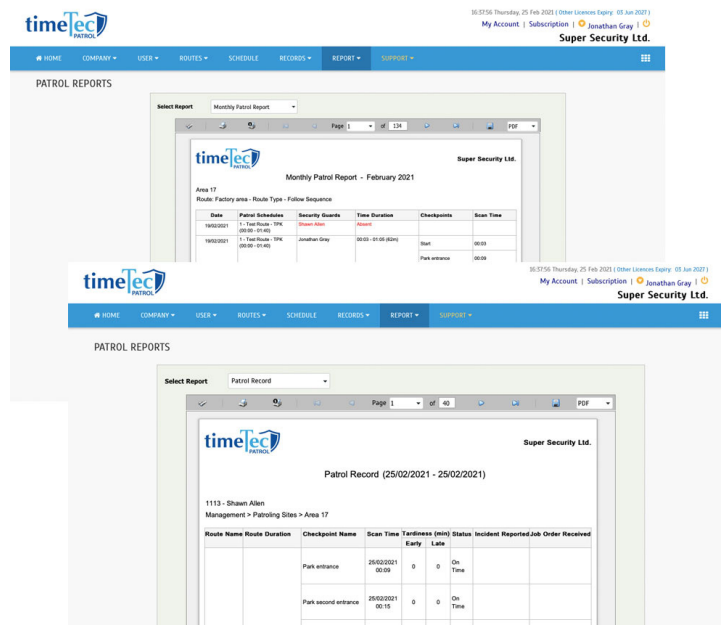
Patrol Schedule Details

Stores each clocking data even if the check-in is accidental.



Data Audit List

No alteration of the patrol records is allowed, and edited records by the admins stand out.



TimeTec Rugged Device

✓ IP68 Dust / Water Resistant

✓ MIL-STD-810H Compliant

✓ Support 5G

✓ 128GB Storage

✓ 6GB RAM

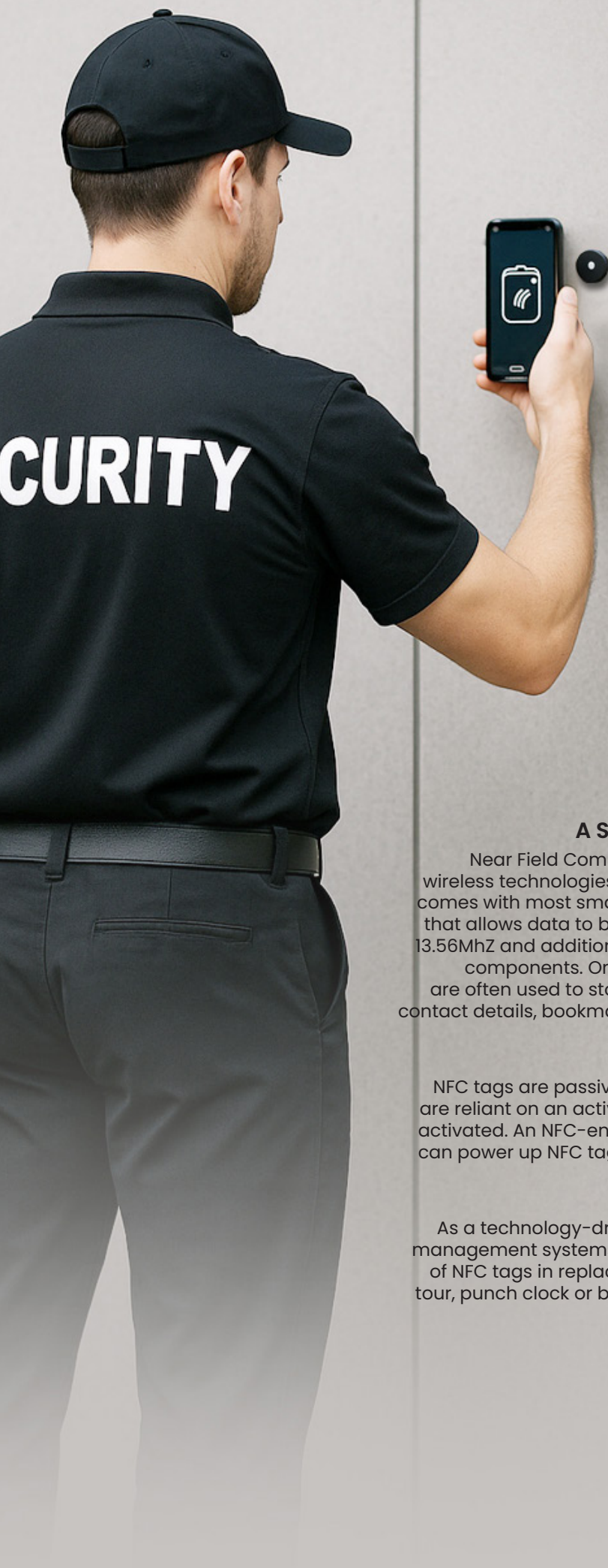
✓ 50.0 MP Rear Camera

✓ 4,050mAh Battery

✓ GPS, Glonass, Beidou, Galileo & QZSS

✓ Support NFC





timeTec NFC Tags

A Solid Proof for Guard Tour and Attendance

Near Field Communication or known as NFC is a set of short-range wireless technologies, a common technology and a default feature that comes with most smartphones today. NFC adapts the concept of MiFare that allows data to be transmitted via radio waves with radio frequency 13.56MHz and additionally; it also induces electric currents within passive components. On top of phone-to-phone communication, NFC tags are often used to store information from short texts like web addresses, contact details, bookmarks, geolocations and many more. It is a quick and efficient way to push information into your phone.

NFC tags are passive devices having no power supply of their own and are reliant on an active device to come into range before they could get activated. An NFC-enabled smartphone is one of the active devices that can power up NFC tags when the phone is in close proximity of around a few centimeters to the tag.

As a technology-driven developer for security products and workforce management systems, TimeTec taps on the NFC technology with the use of NFC tags in replacing the conventional checkpoint devices for guard tour, punch clock or biometric devices for time and attendance clocking.

timeTec

NFC

Size (mm)	30 x 30	Chip	NXP NTAG 213
Shape	Round	IC protocol	ISO 14443A
Color	Black	Working distance	< 4 cm
Usage	Indoor/Outdoor	Frequency	13.56 MHz
Mounting method	Adhesive sticker/Screw	Operating temperature	-25°C to 70°C
Surface finish	Matte	Storage temperature	-55°C to 125°C
Design	Anti metal, weatherproof	MOQ, minimum order quantity	10 pcs
Material	ABS		



Mechanics of NFC Tags in TimeTec Patrol

NFC tags are installed at regular intervals at each patrol route for monitoring purpose. Each guard is assigned with an NFC-enabled phone during his patrol rounds. When the guard places the phone near any tags, a signal is sent to TimeTec Patrol's cloud portal along with information regarding the identity, time, and exact location of the guard.

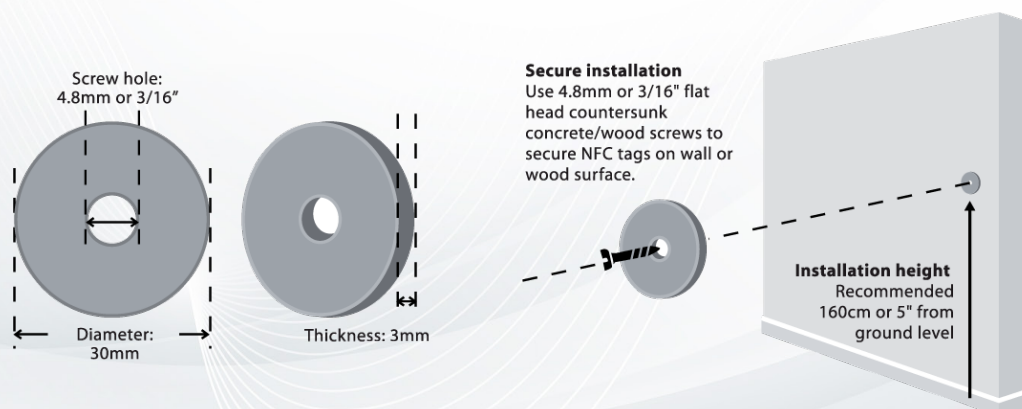
TimeTec Patrol cloud portal can be configured in such a way that if the guard is not punctual in his patrol rounds, either late or early clocking at predefined checkpoints, automated notifications can be sent to notify supervisors or the management about the tardiness for rectification.

TimeTec Patrol app is loaded with useful features for guards to perform patrol tasks, such as reporting of incidents, receiving adhoc tasks, and instant reporting during emergency; and with the app, monitoring of guards' locations in real-time is made easy. NFC still works in buildings with poor GPS reception because the location data associated with the NFC tags will be transmitted without delays when the phone returns to a location with good reception.

Mechanics of NFC Tags in TimeTec HR

Install NFC tags at specific locations for staff attendance. Staff need to open the TimeTec HR app on their smartphone and tap the phone on the tag to record attendance. Work codes and/or activity codes can be assigned to label the worked hours on the employee timesheet. Arrivals, departures and break times are recorded via the smartphone on site, and the administrator can access TimeTec HR cloud solution and get the real-time data for further analysis. The deployment of NFC tags and smartphones in today's BYOD or Bring Your Own Device environment helps you save on hardware costs for time clocking and it brings convenience to both employer and the staff alike.

Installation Diagram





timeTec Beacon

Attain Accuracy Effortlessly

Time Beacon is a battery powered device that taps on Bluetooth Low Energy, BLE, a protocol that is embedded in most smartphones, tablets and other devices of today. BLE protocol allows beacons to transfer files, photos or any digital information with minimal power after a simple and secure pairing process.

Time Beacon broadcasts its unique identities or information to nearby smartphones, tablets and other devices via BLE through one-way communication from the beacon to the devices only. The broadcast information can include unique IDs, web addresses, geolocations, etc. To use Time Beacon, users need to install appropriate mobile app into select devices for the information to be broadcasted by the beacon, and translated into useful information for users to view in the software.

TimeTec Beacon can be a cost effective replacement for conventional checkpoint device for guard tour, punch clock or biometric devices for time and attendance clocking and it comes with waterproof case for outdoor installation.

timeTec Beacon

Size (H x W x L) 10 mm x 45 mm x 45 mm

Weight 20g

Power 3VDC button battery (CR2477)

Communication Bluetooth Low Energy 4.0

Chipset Type I - Nordic 51822

Mobile OS support iOS 6.0 and above, Android 4.3 and above

Working mode 3 (Sleep mode, Connect Mode, Disconnect mode)

Working distance 10m

TX power

4 selections (-23dBm, -6dBm, 0dBm, +4dBm)

Operating temperature

-10°C ~ 85°C

Storage temperature

-10°C ~ 85°C

Mounting method

Adhesive sticker

Certifications

CE, FCC, RoHS



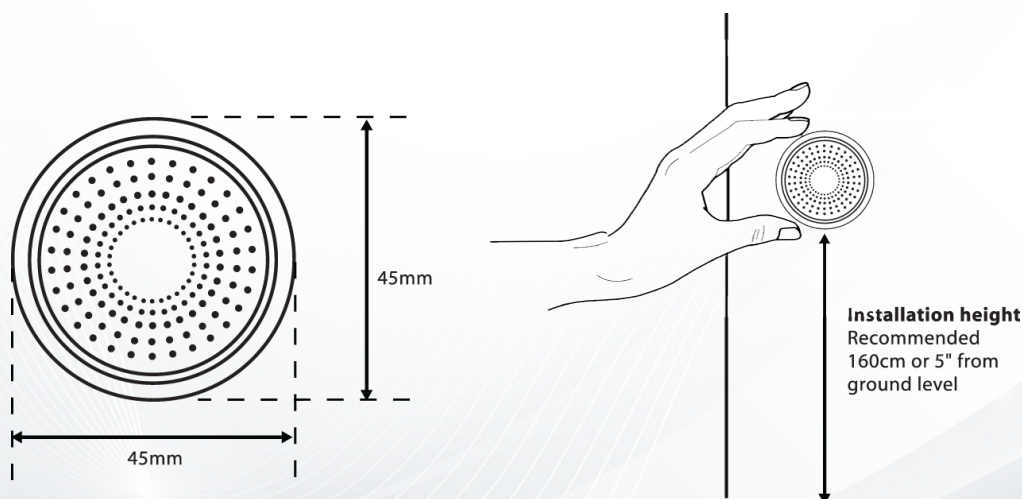
Mechanism of Time Beacon in TimeTec Patrol

Time Beacons are installed at regular intervals for each patrol route for monitoring purpose. Each patrol guard is assigned with a BLE-enabled phone during his patrol rounds. When the guard scans a Time Beacon, all information containing identity, time, and exact location of the guard is sent to TimeTec Patrol's cloud portal. Punctuality can be controlled during patrol rounds, whereby every time a guard clocks late or early at predefined checkpoints, automated notifications will be sent to notify supervisors or the management about the tardiness. TimeTec Patrol App is loaded with useful features for guards to perform patrol tasks, such as reporting of incidents, receiving adhoc tasks, and instant reporting during emergency; and with the app, monitoring of guards' locations in real-time is made easy. Time Beacon still works in buildings with poor GPS reception because the location data associated with the beacon will be transmitted without delays when the phone returns to a location with good reception.

Mechanism of Time Beacon in TimeTec HR

Install Time Beacons at specific locations for staff's attendance clocking and the staff needs to open TimeTec HR App on their smartphone and scan the nearby beacon to record their attendance. Work codes and/or activity codes can be assigned to label the worked hours on the employee timesheet. Arrivals, departures and break times are recorded by the smartphone on site, and the administrator can access TimeTec HR cloud solution and get the real-time data for further analysis. The deployment of Time Beacon and mobile app in today's BYOD or Bring Your Own Device environment gets you to save on the hardware cost for time clocking and it brings convenience to both employer and the staff alike.

Installation Diagram



TimeTec Patrol turns traditional guard tour management into a smart, proactive, and fully auditable process. By leveraging cloud technology, it ensures that every patrol is executed on time, every incident is recorded, and every client is kept informed—resulting in a safer, more transparent security service.

Smart Commerce Module

Driving Near Field Commerce within the short distance township through i-Merchants, loyalty points, and the i-Ad system—connecting residents and businesses with smarter retail, rewards, and promotions in one seamless platform.



Near Field Commerce

Building Sustainable, Community-Centric Trade

Near Field Commerce (NFC) is a concept that redefines how online and offline commerce interact, focusing on short-distance transactions between buyers and sellers within the same community. Unlike traditional e-commerce, which thrives on borderless markets and long-distance logistics, NFC emphasizes proximity, sustainability, and stronger social connections.

The idea TimeTec borrows from Near Field Communication technology—where devices connect within centimeters—but replaces “communication” with “commerce” to highlight the goal: leveraging smart platforms to connect nearby merchants and customers for quick, convenient, and environmentally conscious transactions.

Why Near Field Commerce Matters



Environmental Responsibility

By eliminating unnecessary long-haul deliveries, NFC reduces carbon emissions, packaging waste, and last-mile transportation impact.



Community Engagement

Transactions are embedded within a smart community system, strengthening local networks and trust between buyers and sellers.



Operational Efficiency

Shorter delivery routes or in-person pickups lower costs, speed up order fulfillment, and ease return processes.

Key Principles of Near Field Commerce



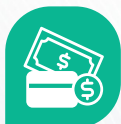
Proximity First

Distance matters; NFC platforms connect users with the nearest merchants or service providers, from bookstores to plumbers, prioritizing convenience over price.



Local Merchant Directory

An organized database of products, services, and promotions makes it easy for residents to discover and support local businesses.



Optional Online Payment

Since transactions often happen face-to-face, payment methods can be flexible—cash, card, or digital wallet.



Minimal Third-Party Logistics

Sellers can deliver directly or meet customers in person, cutting delivery costs and packaging waste.



Integration with Community Systems

NFC works best when linked with tools like visitor management systems, yard sale modules, and amenity service contacts.

Beyond Shopping: Broader Applications

NFC extends to various community-driven scenarios:



Yard Sales & Recycling

Encouraging residents to trade or sell used goods locally, achieving near-zero delivery distance.



Service Providers

Connecting residents with local electricians, tutors, gardeners, and more.



Community Group Buy

Coordinating bulk purchases from multiple households in the same community, fulfilled through a single delivery to reduce cost and emissions.

Event-Based Demand

Allowing merchants to boost sales during off-peak hours by reaching nearby customers instantly.



The Outcome

Near Field Commerce flips the common O2O (Online-to-Offline) model on its head. Instead of driving customers online to shop from anywhere, NFC starts with the local offline ecosystem and leverages online tools to strengthen and streamline nearby transactions.

The result is a commerce model that's faster, greener, and more human—one where convenience meets community, and technology supports sustainability.



Near Field Commerce with **Loyalty Program**



Elevate Commerce Experience with Super App

Near Field Commerce & Loyalty



Shopping



Restaurant



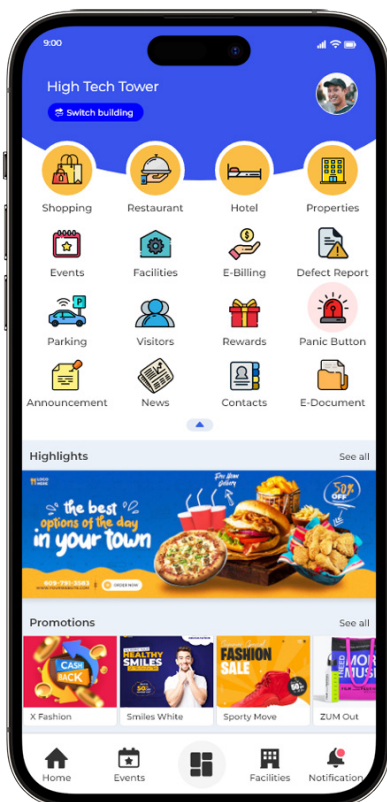
Hotel



Properties



Hospital



E-Info



Announcement



News



Contacts



E-Documents



Promotions



E-Form



E-Polling

General



E-Billing



Facilities



Visitor



Smart Parking



Defect Report



Panic Button

Loyalty Program Flow



Management

Set up loyalty points & reward



Merchant

Purchase loyalty points from the system



Merchant

Make purchase and earn loyalty points



Merchant

Redeem rewards based on accumulated loyalty points



Customers

Loyalty Point

Earn points through purchases at participating merchants

Reward Redemption

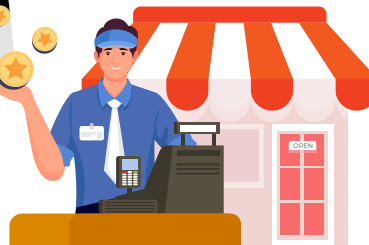
Exchange loyalty points for gifts

Collection Methods

Choose between self-collection or delivery

Store Locator

Access store information including GPS location



Merchants

Merchant Listing

Display store information to the customers

Transaction Record

Maintain a complete history of point redemptions

Attachment Upload

Optional to upload receipts for point redemption records

Kiosk Account

Convenient remote device access, perfect for concierge



Management

Merchant/ Store Management

Manage merchants/stores accounts

Loyalty Point Management

Manage merchants' purchases of loyalty points

Reward Listing

Upload the list of available rewards for customer redemption

Township Management

Oversee near-field commerce for malls, restaurants, hotels, and more



Introducing i-Ad Hub:

Amplifying Local Commerce Through Smart Community Advertising

In the world of Near Field Commerce, the closer the connection, the stronger the impact. Enter i-Ad Hub—a uniquely strategic advertising platform designed to elevate local merchants and smart communities alike.

What is i-Ad Hub?

i-Ad Hub is a cloud-based advertising engine seamlessly integrated into SaaS platforms like TimeTec iNeighbour and TimeTec iTower apps. It enables community managers to monetize digital real estate by displaying targeted ads to residents, staff, and visitors—without extra cost.

Why it matters for Near Field Commerce

Hyper-local visibility

Ads appear only within apps used by nearby residents, making promotions timely, relevant, and geographically targeted

Dual benefit for communities and merchants

Local businesses gain visibility; community hubs gain revenue – all while keeping commerce local.

Built for convenience and control

Easy onboarding – with options to curate ad placement and filter content – means community administrators remain in full control.

Features at a glance:

Cloud-based flexibility

Manage ad campaigns anytime, from anywhere.

Dynamic revenue tracking

Real-time dashboards let communities monitor impressions, clicks, and earnings.

Physical Parking Kiosk and in-app ad options

From physical parking kiosk screens to intuitive in-app placements, i-Ad adapts to multiple channels.

Pay-for-performance pricing

Advertisers only pay for ads that are displayed or clicked, making campaigns budget-friendly.

How i-Ad Hub Elevates NFC

By embedding targeted advertising into community platforms, i-Ad Hub reinforces the NFC promise: smart, sustainable community commerce that supports local businesses, minimizes wasteful logistics, and fosters trust within neighborhoods—while also helping communities fund their digital ecosystems.



Target Suitable Audience

Advertisers can choose suitable cloud applications to display their ads. You can target on users of particular software application. For example, if you are in a community restaurant, you can choose within i-Neighbour to target users from the community or people who are just visiting the community.



AD Easy Start!

To start a campaign in i-AD is extremely easy. We provide ad creation tool - i-AD Tool for free. You can start the campaign with any budget, stop and resume at anytime you want.



Create Text AD with i-AD

You can create your advertisement in text easily with i-AD. We also provide a list of online banner creators that you can use to create image/animation AD.



Pay for Results

Payment is easy and you only need to pay for results.



View AD Performance

Login to your i-AD Advertiser account to view the performance of your ad instantly. You can clearly view how much is your budget left as well as how many clicks and views your ad has generated in our i-AD Stat.



Change Ads Settings Anytime

You can always change your ads settings here to receive the best advertising results. Change time of ads, location, or even switch SaaS that you want to display your ads in.



Workforce & Talent Management Modules

Managing attendance, leave, claims, payroll, recruitment, and appraisals in one integrated platform—streamlining workforce processes while empowering organizations to attract, retain, and develop talent within the Smart Township.

Introduction to TimeTec HR

TimeTec HR is an all-in-one, cloud based Human Resource Management System (HRMS) designed to centralize and streamline your HR functions for improved efficiency and scalability. It integrates essential HR processes—such as attendance tracking, payroll, claims, leave, performance appraisal, employee profiles, and HR analytics—into one unified platform.

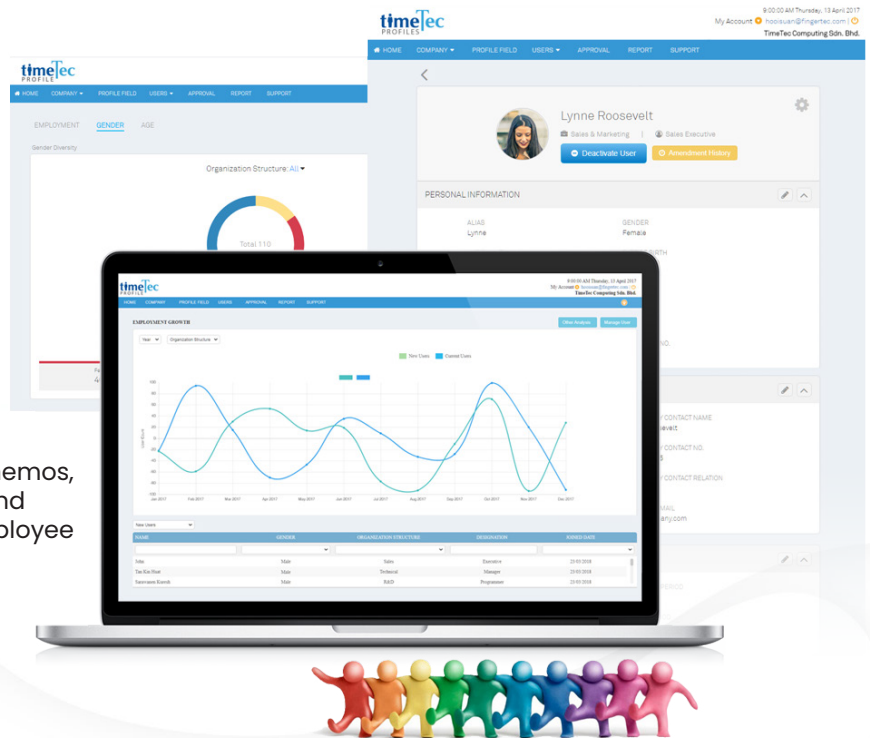
By moving HR operations to the cloud, TimeTec HR eliminates standalone systems and manual processes that often result in inefficiencies, data silos, and increased maintenance efforts. This all in one approach not only saves time but also enhances data accuracy, consistency, and accessibility across the organization.





Employee Profile

Included free with any module, this feature handles onboarding/offboarding, announcements, company calendars, HR memos, customizable fields, multi-level hierarchy, and two-factor authentication—centralizing employee information securely.



Time Attendance

Offers GPS-enabled mobile clocking, customizable shifts, rosters, geofencing, overnight scheduling, and real-time absence alerts. Seamless integration with payroll ensures end-to-end attendance-to-pay processing.



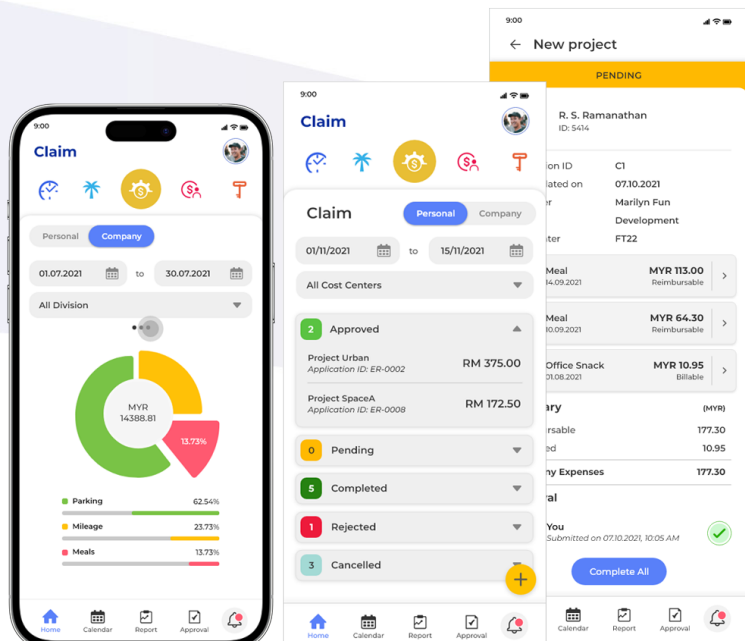
(Malaysia only) Payroll Management

Automates salary calculations, including EPF, SOCSO, EIS, HRDF levies, and income tax deductions. Supports Borang E/EA generation and connects with local banks for payments. Payslips can be distributed via email or app, and fully integrates with other modules like attendance, leave, and claims.



Claim Management

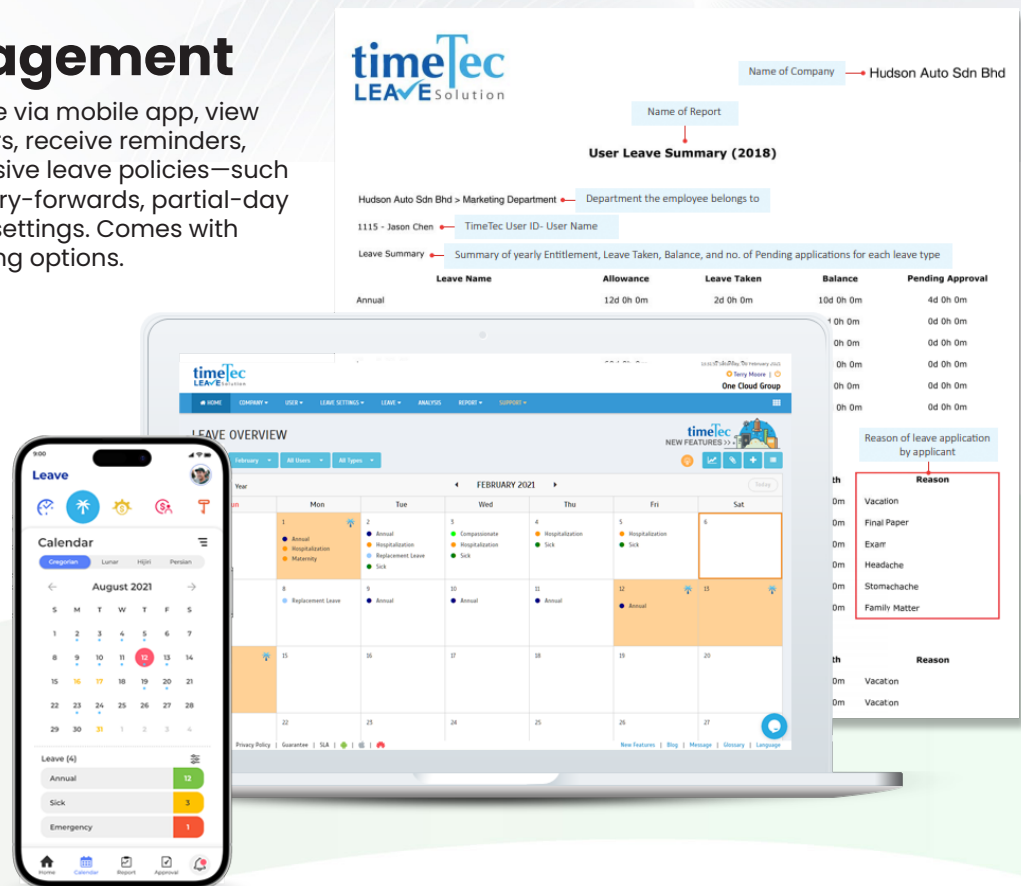
Covers over eight claim types with customizable rules, rates, and approval workflows. Easily submit and approve via app, convert claims into billable client items, and generate professional claim analyses and reports.





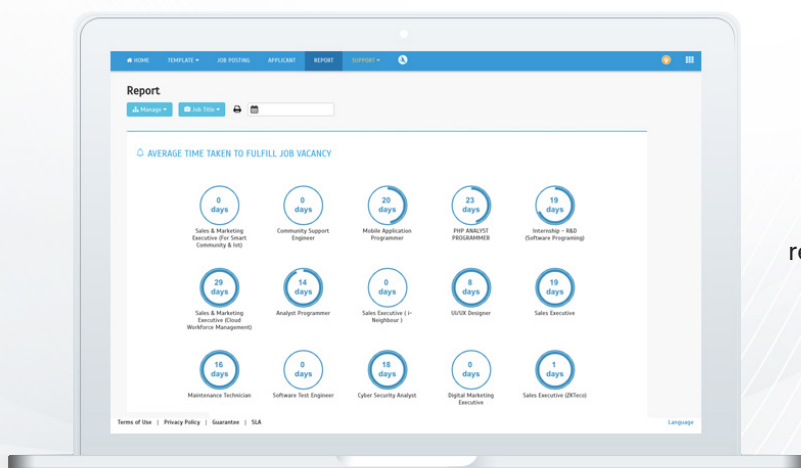
Leave Management

Submit and approve leave via mobile app, view integrated leave calendars, receive reminders, and manage comprehensive leave policies—such as prorated balances, carry-forwards, partial-day leaves, and crunch-time settings. Comes with multiple real-time reporting options.



Recruitment Management

TimeTec Hire is a cloud-based, automated recruitment management system (ATS) that streamlines the entire hiring workflow—from requisition approval and customizable job posting to candidate screening, interview scheduling, scorecard evaluations, offer negotiation, and seamless onboarding via integration with TimeTec Profile.





timeTec APPRAISAL Performance Appraisal

Supports self, superior, and subordinate appraisals, with custom grading, rating templates, schedules, and dashboards. Enables flexible workflows and comprehensive appraisal tracking.

TimeTec Biometric Device Integration

Seamlessly integrates with facial recognition, thumbprint, and card-based biometric hardware for attendance tracking and access control.





TimeTec HR Analytics & Reporting

Access actionable insights across recruitment, performance, retention, and claims. Offers over 50 standard reports and analytics dashboards that support strategic, data-driven HR decision-making.



Benefits at a Glance



Unified Platform

Integrates multiple HR functions to eliminate fragmentation and reduce admin burden.



Automation & Accuracy

Minimizes errors and manual workflows in payroll, attendance, claims, and leave.



Employee Empowerment

Via mobile app, staff can manage their attendance, leave, claims, and profiles anytime.



Scalable, Cloud-Based

Built for flexibility, cost-efficiency, and growth—no heavy on-premise infrastructure needed.



Enhanced Oversight

Biometric integration and audit trails bolster security and compliance.



Data-Driven Strategy

Advanced analytics support workforce planning, retention, and proactive HR management.



Local Relevance

Tailored to Malaysia's payroll and banking systems, ensuring legal and operational alignment.

In Summary

TimeTec HR presents a robust, cloud-first HRMS that consolidates key HR workflows into a sleek, integrated platform. From advanced attendance tracking with geolocation and biometric integration to streamlined payroll, leave, claim, and performance management—and topped with deep analytics—it empowers HR professionals to shift from administrative firefighting to strategic leadership. Frequent feature updates demonstrate TimeTec's commitment to innovation and user feedback.

Your Challenges & Our Solutions

Lack of Integration

Standalone HR software and biometric devices that don't sync with one another force HR to juggle multiple platforms, wasting time and creating unnecessary maintenance burdens.



✓ Integrated HR System

Comprehensive HR system centralizes all data on one platform, ensuring up-to-date information across systems and reducing maintenance hassles.

Manual Processes with Frequent Errors

Relying on manual calculations and tracking can lead to frequent errors and inefficiencies, ultimately impacting productivity and overall HR operations.



✓ Streamlined Workflow Automation

Automate key HR functions from attendance tracking to payroll calculations, ensuring accuracy and efficiency.

Limited Analytics

Systems that operate in isolation will have their analytics confined to their own data sets, restricting insights and hindering strategic decision-making in HR management.



✓ Wide Range Analytics

Integrate data from all HR systems into a unified dashboard, where insights from different modules complement each other, providing a connected view for data-driven decision-making.

Employee Self-Service Limitations

Without a self-service portal, employees must depend on HR to access essential information such as leave balances, payslips, EA forms, and more.



✓ Employee Self-Service Portal & App

Empower employees with instant access to their payslips, leave balances, claim statuses, and other essential HR information.

On-Premises System Limitations

Restricted access tied to PCs that incurs high upfront costs, demands continuous maintenance, and often lacks the scalability required for growing businesses.



✓ Cloud-Based HR System

Reduce maintenance efforts while enabling seamless scalability and cost efficiency with minimal upfront investment.



Post-Smart Township

(Sustainability)

Driven by Data

Utilize TimeTec comprehensive analytics suite of services including Tenant Analytics, Parking Analytics, Maintenance Analytics, Security Analytics and Commerce Analytics. These essential tools are designed to enhance building management, ensuring the well-being of your property and the optimization of your tenant portfolio.

Third Level

DIGITAL LIFESTYLE Driven by Data

Data Analytics, Agentic AI (Business Transformation)

Post-Smart Township (Sustainability)

Know
the Buildings



Know
the People



Know
the Activities



Digital Transformation (Operational)
Single System → Ecosystem (Super App)
 • Automation
 • Interaction

AI Transformation (Create Value)
Data Driven → AI Driven (Data-in-action)
 • Increase productivity
 • Better experience



Business Transformation (New Businesses)
Reduce cost → Improve Revenue (Agile + AI Driven)
 • Monetization
 • New business
(home service, community group buy etc)

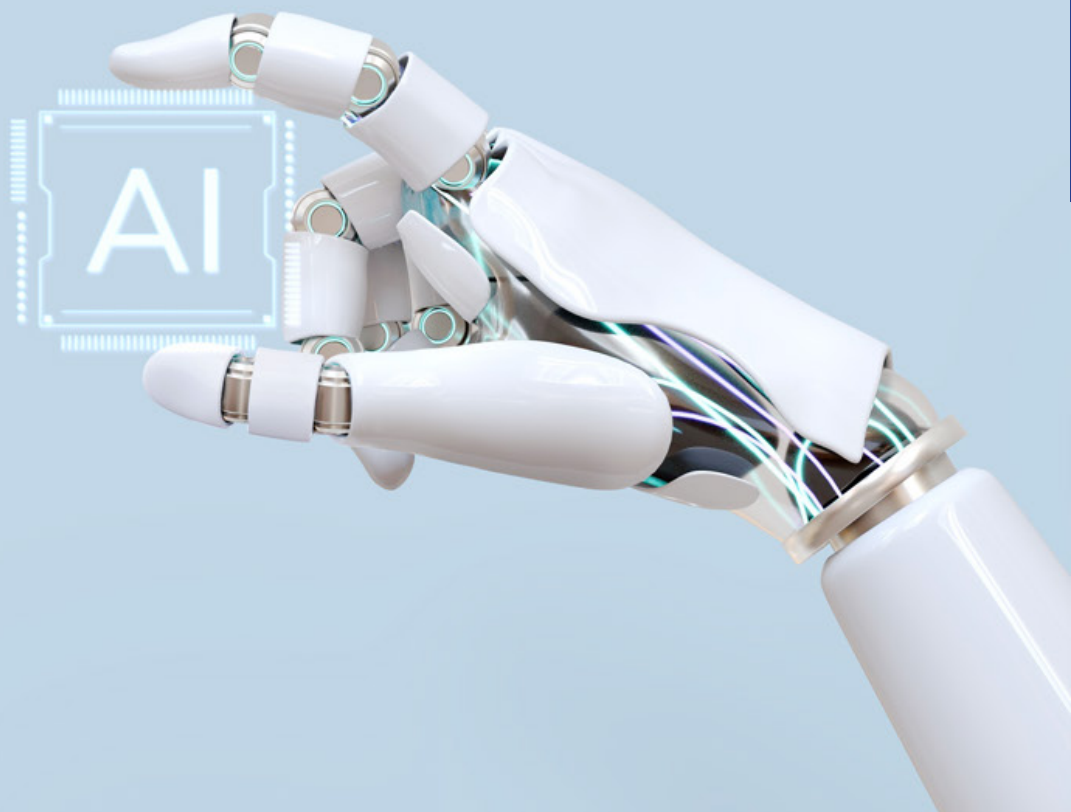
Data Analytics and Agentic AI

The Power of Data Analytics and Agentic AI in Smart Building Systems

Modern smart buildings and communities generate vast amounts of data every day – from access control logs, facility bookings, and energy consumption patterns to visitor records, maintenance reports, and financial transactions. Data analytics transforms this raw, fragmented information into clear, actionable insights, enabling property managers, Joint Management Bodies (JMBs), and community operators to make faster, more informed decisions.

However, insights alone are no longer enough in a fast-moving environment. This is where Agentic AI steps in. Unlike traditional analytics that waits for human interpretation, Agentic AI acts as an autonomous decision-maker – continuously monitoring data streams, predicting issues before they happen, prescribing the best course of action, and even executing those actions automatically.

When combined, data analytics provides the visibility, while Agentic AI delivers the agility. Together, they create an intelligent, self-optimizing ecosystem that not only improves operational efficiency and cost control, but also enhances safety, sustainability, and resident satisfaction in smart building and community systems.



The Benefits

Unified, Real-Time Visibility & Efficiency

- TimeTec Smart Building Analytics offers a single integrated view across diverse operational domains—accounting, security, short-stay, facility bookings, maintenance, attendance, visitor flow, defects, and more—empowering commercial property management companies, and Residential Associations (RAs), Joint Management Bodies (JMBs), and management corporations to make informed, data-driven decisions swiftly, improving both operational responsiveness and resident satisfaction.
- With automatically consolidated data templates and visualization tools, managers can quickly identify anomalies, trends, and areas needing attention—thus avoiding blind spots and gaining agility in responding to emerging issues.

Robust Data Quality & Governance

- The system's design ensures intuitive data lineage—meaning the flow from raw input to meaningful analytics is seamless—so users benefit from consistent, high-quality data without complex data lifecycle efforts.
- Compliance is also strengthened: TimeTec holds certifications like ISO 27001, ISO 27017, and ISO 27018, with optional two-factor authentication and annual penetration testing, providing strong governance and security frameworks.

Finance & Accounting Analytics

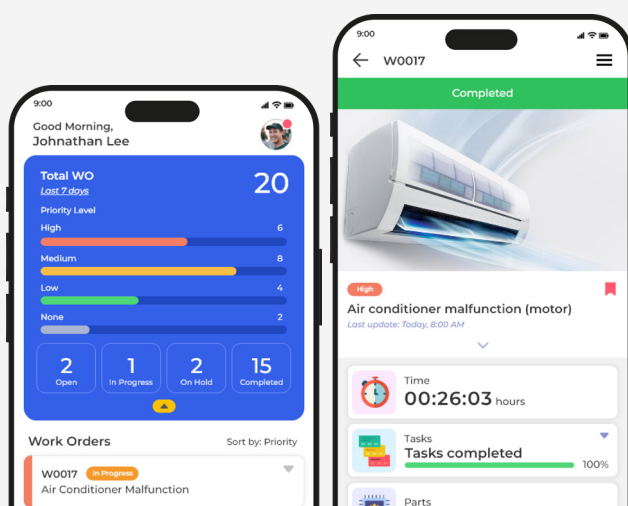
- Track key financial metrics including occupancy rates, outstanding debts, maintenance and sinking fund collections, payment methods, and facility booking revenue streams to maintain tight financial control and optimize cash flow.
- Integration with modules like i-Account brings automation in billing, payment reconciliation, e-invoicing compliance, defaulter notifications, and maintenance cost syncing—supporting accurate, timely accounting and improved transparency.

Security & Safety Analytics

- Leverage real-time surveillance and analytics: automate detection of suspicious activity, enhance crime prevention, speed up investigations, and gain dynamic situational awareness. Metrics include visitor traffic patterns, access control, guard patrol metrics, and facial identity detection.

Facility Utilization & Short-Stay Insights

- For short-term rentals, the analytics reveal customer trends, occupancy behaviors, and access control patterns—helping raise owner satisfaction, security standards, and income generation.
- Booking metrics—such as facility usage rates, patterns, and demand peaks—allow for smarter scheduling, resource allocation, and maximizing utilization.



Maintenance Analytics

Real-time data on maintenance costs, asset downtimes, work order efficiency, and stock levels improve preventive maintenance, reduce delays and costs, promote safety, and allow better planning and resource deployment.

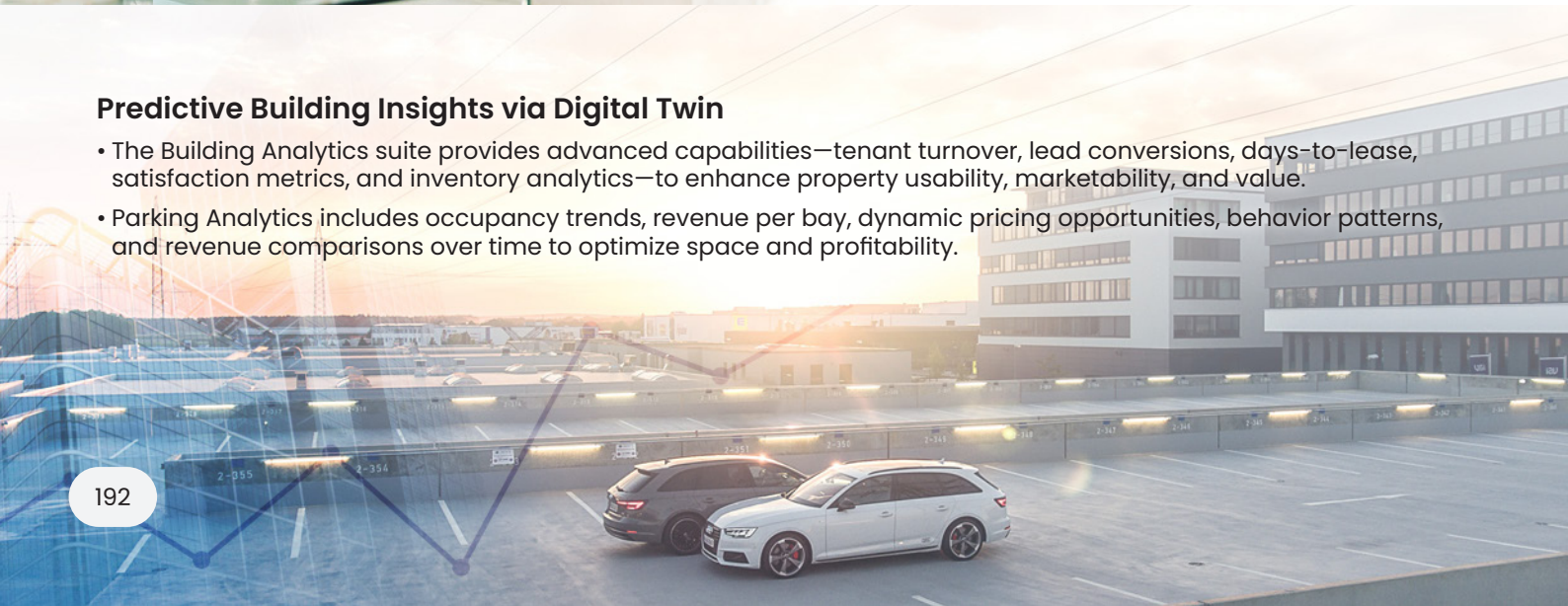


Resident Feedback & Complaint Analytics

Monitoring complaint trends and feedback data helps anticipate and address recurrent issues proactively, driving better community management, service improvements, and fostering trust.

Predictive Building Insights via Digital Twin

- The Building Analytics suite provides advanced capabilities—tenant turnover, lead conversions, days-to-lease, satisfaction metrics, and inventory analytics—to enhance property usability, marketability, and value.
- Parking Analytics includes occupancy trends, revenue per bay, dynamic pricing opportunities, behavior patterns, and revenue comparisons over time to optimize space and profitability.



Tenant Analytics



Tenant turnover



Outstanding debt



Average days-to-lease



Inventory of properties



Occupancy rates



Lead conversion rates



Tenant satisfaction



Maintenance & sinking fund collection

The Benefits

- ✓ Increase customer or tenant satisfaction
- ✓ Boost property rentals and occupancy
- ✓ Better accounting control
- ✓ More accurate advice on tenants and residents
- ✓ Knowledge of true market value



Parking Analytics



Collection breakdown by duration



Earning per bay



Occupancy rate



Turnover rate



Income per site analysis



User behavior analysis



Different parking methods & next activities

The Benefits

- ✓ Increase parking occupancy based on user behavior
- ✓ Maximize parking revenue streams by right-sizing product offerings
- ✓ Identify dynamic pricing opportunities that enhance your parking strategy
- ✓ Make period-over-period comparisons
- ✓ Identify successes and pinpoint areas for improvement



Maintenance Analytics



Time spent



Cost by maintenance type



Corrective work order



Spare part inventory



Support & maintenance Cost



Downtime per asset



Planned maintenance



Size of Backlog

The Benefits

- ✓ Improve customer service
- ✓ Reduce maintenance costs
- ✓ Improve safety and compliance
- ✓ Optimize field force
- ✓ Detect fraud



Security Analytics



Visitor analysis



Access control analysis



Video analytics



Identity detection



Guard tour analysis



Facility access analysis

The Benefits

- ✓ Automate surveillance
- ✓ Improve crime detection & prevention
- ✓ Accelerate investigations
- ✓ Attain situational awareness dynamically
- ✓ Drive real time alerting proactively



How Agentic AI Can Amplify These Benefits

Agentic AI refers to autonomous systems equipped with decision - making capabilities - capable of acting, learning, and adapting to drive goals forward. Here's how such AI can enhance smart building/community analytics:



Autonomous Insight Generation

Agentic AI can monitor real-time data streams and automatically surface anomalies, forecast maintenance issues, detect security threats, or identify financial irregularities—delivering proactive alerts to managers without manual analysis.

Predictive & Prescriptive Intelligence

Employing predictive modeling, AI agents can forecast maintenance failures, visitor surges, security risks, or financial shortfalls. They can even prescriptively recommend actions—like scheduling preventive repairs, adjusting access policies, or ramping up billing reminders.



Intelligent Automation & Orchestration

Automate workflows end-to-end: upon detecting a defaulter, the AI agent can send reminders, restrict facility bookings, generate invoices, and notify management—all without human intervention.



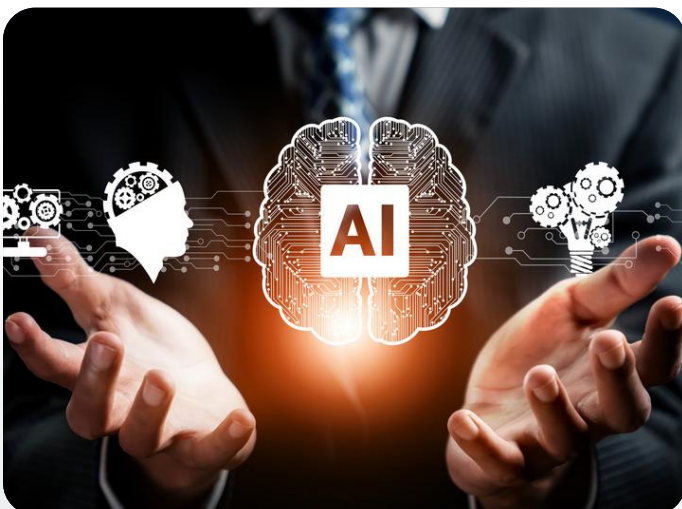
Feedback Loop & Resident Engagement

Agentic AI can categorize resident complaints, prioritize urgent issues, route them to the appropriate channels, and even suggest service enhancements—enhancing responsiveness and personalizing community management.



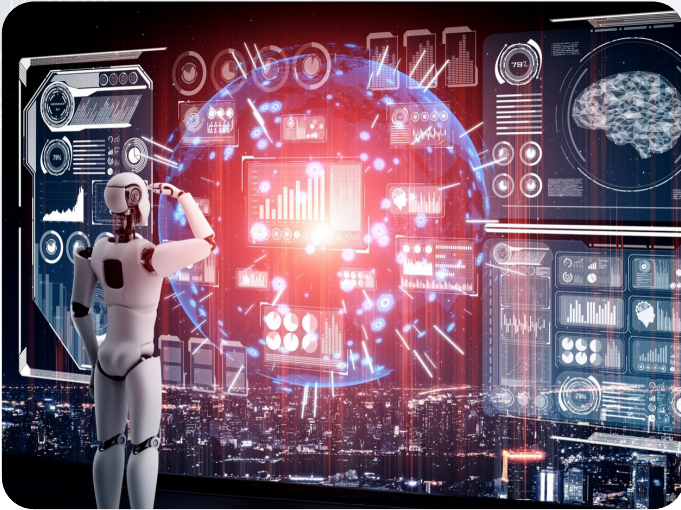
Dynamic Resource & Space Management

Integrate analytics with IoT sensors to dynamically manage facilities: e.g., regulate lighting, control HVAC systems, or open/close common areas based on actual usage patterns, optimizing energy and maintenance costs.



Continuous Learning & Optimization

As AI agents learn patterns over time, they enhance decision accuracy—fine-tuning alert thresholds, better understanding resident behavior, and optimizing predictive models for scheduling, security, and financial health.



Simulations & Scenario Planning

Within a digital twin environment, AI can simulate outcomes—such as changes in occupancy trends, financial policies, or resource planning—helping management forecast impact and make strategic decisions confidently.

Summary

The Smart Building Analytics platform already equips smart building communities with comprehensive visibility, operational efficiency, data quality, and governance. When enhanced with Agentic AI, these systems can evolve from passive dashboards into proactive, autonomous, and intelligent agents—anticipating issues, optimizing workflows, and enhancing resident experiences continuously.

Domain	Key Benefit from Analytics	Agentic AI Enhancement
Finance & Accounting	Transparent accounting & cost control	Automated invoicing, reminder workflows, anomaly alerts
Security	Proactive safety monitoring and threat response	Autonomous threat detection and policy enforcement
Maintenance	Optimized repairs and asset uptime	Predictive maintenance and scheduling via AI agents
Short-Stay / Facility	Better occupancy and revenue insights	Dynamic pricing and access control automation
Resident Feedback	Trend spotting and issue tracking	Automated complaint triage and service improvement actions
Building & Parking	Operational KPI visibility	Adaptive control of utilities, dynamic space allocation
Governance & Compliance	Data integrity and security compliance	Autonomous monitoring of audit and compliance standards

Use Cases

1. Predictive Maintenance with Automated Resolution

Scenario:

The analytics dashboard flags that two water pumps have had unusually high operating hours compared to historical averages.

Agentic AI Actions:

1. Detects the anomaly using IoT sensor data.
2. Cross-references maintenance history to predict failure probability (e.g., 85% chance within 2 weeks).
3. Automatically generates a work order in the maintenance module.
4. Schedules the nearest available technician and orders replacement parts from approved vendors.
5. Updates residents with a non-technical notice about upcoming water supply interruptions.

Outcome

Zero downtime, reduced repair costs, higher resident trust.



2. Automated Security Threat Response

Scenario:

Visitor analytics detect an unusual spike in after-hours entries via access control logs.

Agentic AI Actions:

1. Correlates entry logs with CCTV analytics for facial recognition match.
2. Identifies unregistered individuals or access card misuse.
3. Sends alerts to security personnel and locks high-risk access points.
4. Flags the incident in the analytics system and compiles a digital incident report.

Outcome

Faster incident containment and improved safety without requiring manual monitoring.



3. Dynamic Parking & Traffic Flow Management

Scenario:

Parking occupancy analytics show peak congestion on Fridays between 6–8 PM, with some bays underused.

Agentic AI Actions:

1. Suggests and implements temporary bay reallocation for visitors.
2. Adjusts parking fee structure dynamically to incentivize use of underutilized bays.
3. Updates parking guidance displays and pushes live availability to resident mobile apps.



Outcome

Reduced congestion, balanced parking usage, and increased parking revenue.

4. Utility Cost Optimization

Scenario:

Energy consumption data from common areas is consistently higher than benchmarks.

Agentic AI Actions:

1. Identifies waste patterns (e.g., lights on during daylight hours, HVAC cooling unused areas).
2. Integrates with IoT devices to adjust lighting, temperature, and ventilation in real-time based on occupancy.
3. Predicts monthly utility cost savings and reports back to management.



Outcome

Reduced electricity bills and better ESG performance.

5. Short-Stay Management and Compliance

Scenario:

Short-stay visitor analytics detect repeated bookings from the same external parties, potentially violating community bylaws.

Agentic AI Actions:

1. Flags suspicious booking patterns.
2. Cross-checks with local short-stay regulations.
3. Automatically notifies unit owners and management about potential violations.
4. Suggests penalty enforcement or policy changes.

Outcome

Better compliance enforcement and improved community harmony.



6. Resident Feedback & Sentiment Monitoring

Scenario:

Complaint analytics show repeated dissatisfaction with gym cleanliness.

Agentic AI Actions:

1. Aggregates complaints and identifies peak complaint periods.
2. Schedules additional cleaning shifts in those time slots.
3. Sends a follow-up satisfaction survey after improvements are made.
4. Updates analytics dashboard with pre- and post-change sentiment comparison.

Outcome

Improved service quality, measurable satisfaction boost.



7. Event & Facility Booking Optimization

Scenario:

Facility usage analytics reveal the badminton court is fully booked every weekend, while the multipurpose hall is mostly idle.

Agentic AI Actions:

1. Suggests converting idle slots into badminton play areas using portable equipment.
2. Automates booking notifications to residents promoting new availability.
3. Adjusts facility pricing and availability rules dynamically.



Outcome

Better utilization of community facilities, increased booking revenue.

8. Governance & Compliance Reporting

Scenario:

Monthly governance meeting requires KPI reporting on finances, security, and maintenance.

Agentic AI Actions:

1. Gathers all relevant data from i-Account, access control, and maintenance modules.
2. Summarizes key trends with visual charts.
3. Flags any areas where KPIs are not being met and recommends corrective actions.



Outcome

Time saved on report preparation and better decision-making support.

Integration Flow Example

Data Source Layer iNeighbour modules, IoT devices, accounting records, CCTV feeds.

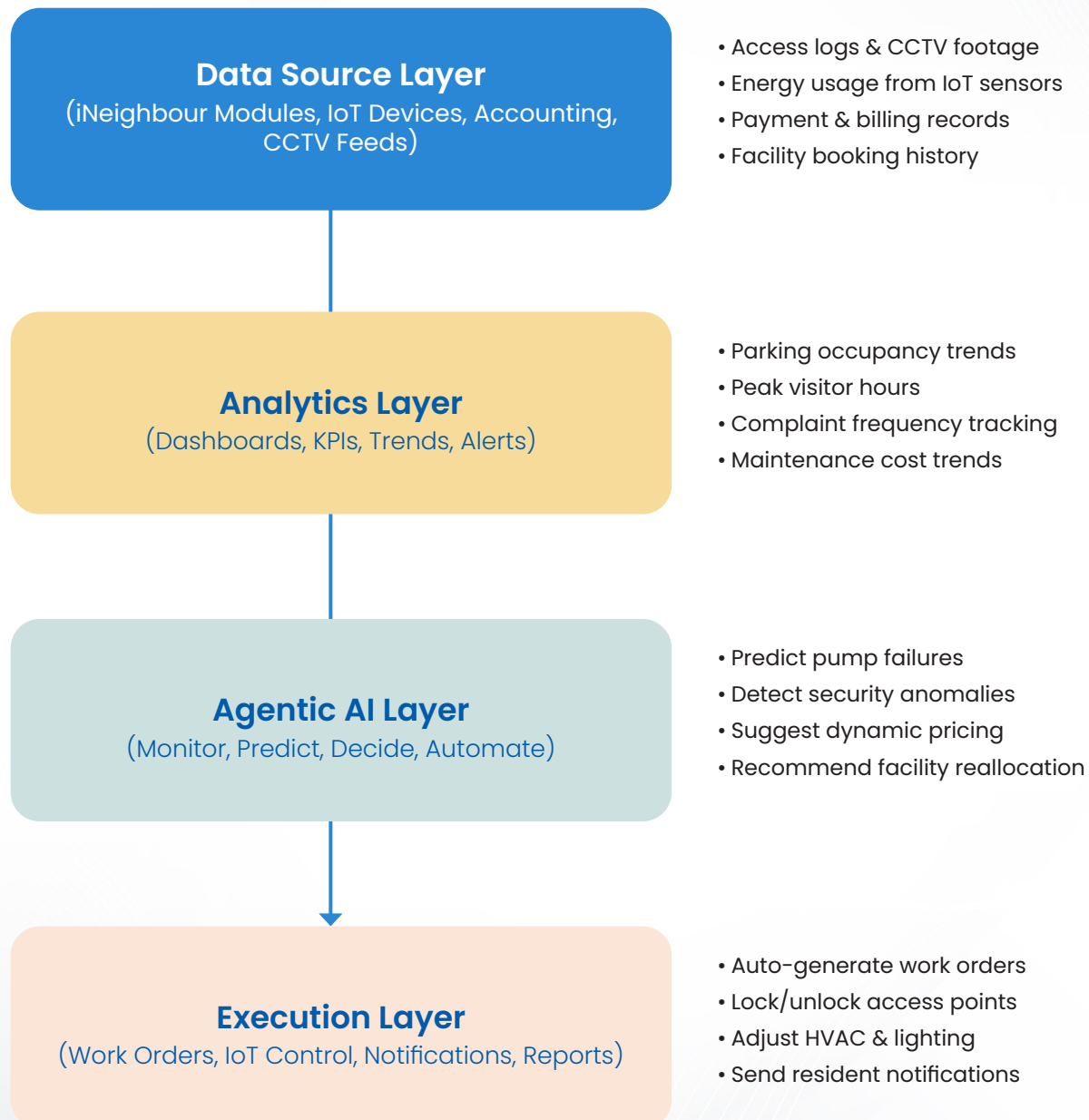
Analytics Layer Consolidates metrics into visual dashboards.

Agentic AI Layer Monitors, predicts, acts autonomously.

Execution Layer Triggers work orders, sends notifications, controls IoT devices, updates dashboards.

Use-Case Mapping

iNeighbour Analytics + Agentic AI



Conclusion

The TimeTec Cloud City Ecosystem seamlessly connects daily home-life and work-life activities into one integrated digital environment. It supports the new norm of work-from-home clocking, face recognition in offices, cashless and touchless car parking, and secure access control for doors, turnstiles, and elevators. The ecosystem also covers tenant management, facility booking, visitor management, guard patrol and surveillance, smart home and smart office automation, property accounting and billing with cashless payment, facility maintenance, community near-field commerce, and much more.

Designed for diverse environments such as office towers, government buildings, shopping malls, hospitals, schools, residential properties, and beyond, the TimeTec Cloud City Ecosystem simplifies the journey of digitalization and AI transformation—bringing convenience, security, and efficiency to every scenario.



Appendix Section

TimeTec Smart Building & Township Implementation Tools

Helping developers, consultants, and building managers identify the right solutions, hardware, and modules for their projects.

Note: This form is paginated for viewing and page reference purposes only within this Catalogue. For actual submission, please click the provided link or scan the QR code to complete your selections online.

Link: www.timeteccloud.com/products-solutions/checklists



Checklist A

TimeTec Products & Solutions Selection Form

(From Product & Solutions Perspective)

Purpose

This checklist helps building owners and developers identify the hardware and software modules relevant to their projects. Use it to mark your areas of interest – our team will arrange a product demo and prepare a detailed budget proposal.

Building Information

Item	Detail
Building Type	☐ Residential ☐ Commercial ☐ Mixed ☐ Township ☐ Office ☐ Special Purpose Others: _____
Company Name	_____
Contact Person	_____
Contact Number/ Email	_____

A. Pre-Smart Township (Hardware Equipment)

(Refer to Catalogue Pages 11–86 & 119–185)

Category	Description	Components	Catalogue Page
☐ Network Infrastructure	Design, Planning & Deployment	Network Devices & Servers, Cabling	11–25
☐ Access Control Products	Door, Lift, Turnstile Access	Face, Card, QR Readers; Controllers	27–61
☐ Parking Equipment (Primary)	Entry / Exit Systems	UHF Readers, LPR Cameras, Barriers, Kiosks, VPGS	62–77
☐ Parking Equipment (Secondary)	Support Devices	POS Terminal, Intercom, P-Lock, Handheld Readers	133–143
☐ IP Surveillance	Visual Monitoring	IP Cameras, NVR	78–82
☐ IP Telephony System	Communication	IP PBX, VoIP PBX, SIP Phones	83–86
☐ Visitor Management Kiosk	Guest Registration	Guardhouse Tablet Panel, Self-Service Kiosk	119–123
☐ Guard Patrol Devices	Security Patrol	Rugged Device, NFC/Beacon Tags	169–172
☐ Biometric Attendance Devices	Workforce Attendance	Fingerprint / Face Terminals	185

B. Smart Township (Software Subscription)

(Refer to Catalogue Pages 93–187)

Category	Description / Modules	Catalogue Page
☐ Rebranding Requirement	Rebrand iTower / iNeighbour App (Optional)	-
☐ Property Handover Modules	Vacant Possession, Defect Management	93–96
☐ Tenant Management	i-Account, Commercial, Residential, Mixed Use	97–111
☐ Automation Modules	TimeTec Visitor, Parking, Maintenance	112–150
☐ Security Modules	TimeTec Access, Surveillance, Patrol	151–172
☐ Smart Commerce	Near Field Commerce, Loyalty, I-Merchants, I-Ad Hub	173–179
☐ Workforce & Talent Management	Attendance, Payroll, Claim, Leave, Hire, Appraisal	180–187

C. Post-Smart Township (Data & AI Services)

(Refer to Catalogue Pages 190–202)

Category	Description / Modules	Catalogue Page
☐ PropTech Data Analytics	iNeighbour / iTower Ecosystem Analytics	190–194
☐ Agentic AI Modules	AI Telephony, Home Service, Dynamic Parking Rate	195–202

Note: Nearly all TimeTec Smart Township solutions come with built-in AI capabilities. The above modules highlight how AI enhances efficiency, transparency, and customer experience.

D. Notes

- Detailed specifications are available in the respective product pages within this catalogue.
- Please complete this checklist and return it to our representative for a consultation.

Checklist B

Smart Building Solution Mapping Table

(From Building Type Perspective)

Purpose

This table helps identify which TimeTec Smart Building software modules and hardware components apply to different building types. Refer to the listed catalogue pages for further details.

A. Building Type Selection

- ☐ Office Tower
 ☐ Shopping Mall
 ☐ Residential Condominium
- ☐ Mixed Development
 ☐ Hotel / Serviced Apartment
 ☐ Hospital
- ☐ School / University
 ☐ Government Building
 ☐ Industrial / Warehouse
- Others: _____

B. Recommended Smart Solutions by Building Type (Summary View)

Building Type	Core Modules	Typical Hardware	Catalogue Pages
☐ Office Tower	iTower App, Smart Parking, Tenant Mgmt, i-Account, Access, Surveillance, Patrol, Workforce, Smart Commerce, Analytics	LPR Cameras, Barriers, Access Readers, Visitor Kiosk, IP CCTV, Attendance Terminals	27–86, 97–187, 190–202
☐ Shopping Mall	TimeTec Parking, Access, CMMS, Patrol, Surveillance, Commerce, Loyalty, Analytics	LPR Cameras, VPGS, IP CCTV, QR Display Devices, Patrol Devices	63–82, 125–179, 190–202
☐ Residential Condo	iNeighbour App, Visitor Mgmt, Smart Access, Maintenance, i-Account, VP & Defect Mgmt, Patrol, Analytics	LPR Cameras, Guardhouse Panel, IP CCTV, Access Readers	27–124, 93–111, 144–202
☐ Hotel / Serviced Apartment	Access, Parking, Housekeeping, Workforce, Commerce, Analytics	Access Readers, LPR Cameras, IP CCTV, Patrol Devices, AI Telephony	27–187, 190–202
☐ Hospital / Medical Center	Access, Parking, Maintenance, Workforce, Surveillance, Analytics	LPR Cameras, Access Readers, IP CCTV, Patrol Devices	27–187, 190–202
☐ School / University	Access, Visitor Mgmt, Library, Maintenance, Patrol, Analytics	Face/Card Terminals, LPR Cameras, Library RFID Readers	27–172, 190–202
☐ Government / HQ	Access, Visitor, Workforce, Parking, Maintenance, Analytics	LPR Cameras, Access Readers, Barriers, Kiosk, IP CCTV	27–187, 190–202
☐ Industrial / Warehouse	Access, Visitor, Parking, Asset Maintenance, Workforce, AI Video Analytics	LPR Cameras, Barriers, Access Readers, CCTV, Patrol Devices	27–187, 190–202

C. Add-On Ecosystem Modules (All Building Types)

Category	Description / Modules	Catalogue Page
☐ Network Infrastructure	Design, Planning, Cabling	11–25
☐ Accounting & E-Invoice	i-Account System integrated with LHDN MyInvois Portal	109–111
☐ Communication & Notification	AI-powered Announcements & Feedback	97–108
☐ Maintenance & CMMS	Asset Tracking & Preventive Scheduling	144–150
☐ Smart Commerce	Near Field Commerce, Loyalty, I-Ad Hub	173–179
☐ AI Analytics Dashboard	Data Insights across all modules	190–202

D. Quick Reference Summary

Category	Software Group	Hardware Family	Catalogue Pages
☐ Network Infrastructure	Network & Server Setup	Network Devices, Switches	11-25
☐ Property Handover	Vacant Possession, Defect Management	N/A	93-96
☐ Tenant Management	iTower / iNeighbour / i-Account	Access Terminals, Controllers	27-61, 97-111
☐ Smart Access	Access & Visitor Management	Readers, Turnstiles, Kiosks	113-124, 152-157
☐ Smart Parking	TimeTec Parking	LPR, Barriers, VPGS	63-124, 152-141
☐ Smart Maintenance	CMMS / Asset Tracking	QR / NFC Tags	144-150
☐ Smart Security	Surveillance / Patrol	CCTV, Patrol Devices	78-82, 158-172
☐ Smart Workforce	HR, Attendance, Payroll	Biometric Terminals	180-187
☐ Smart Commerce	I-Ad Hub, Loyalty, i-Merchant	Digital Panels	173-179
☐ AI Analytics	TimeTec Analytics	N/A	190-202

E. Notes

- Page references correspond to the detailed sections of the *TimeTec Smart City Ecosystem Product & Solution Catalogue*.
- All Smart Township and Smart Building modules are AI-embedded by design.
- Hardware selections may vary depending on site layout, connectivity, and local regulations.

F. Contact

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For a detailed project assessment form, contact our consultant for the Developer Version.



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