Touch 'n Go for Parking

An Essential
PARKING METHOD IN MALAYSIA
Delivered by TimeTec Smart Parking

Touch 'n Go (TNG) has been a part of Malaysia's mobility journey for over two decades. It has become the most popular cashless and ticketless parking solution in Malaysia, with close to 1000 installation sites. Vehicles with TNG Cards* are accepted across all Malaysian expressways, all major public transportation and parking sites in major urban areas and cities nationwide. As of June 2021, with 25 million active cards, 1.2 million active TNG RFID** users, 13 million unique customers, and more than 15 million TNG eWallet users, TNG will continue to champion Malaysia's mobility ecosystem through tolling, parking and transit powered by innovative technology.

As a certified TNG strategic partner in parking solutions, TimeTec provides a full range of TNG parking components from hardware to software and expertise to supervise and ensure successful parking implementations.
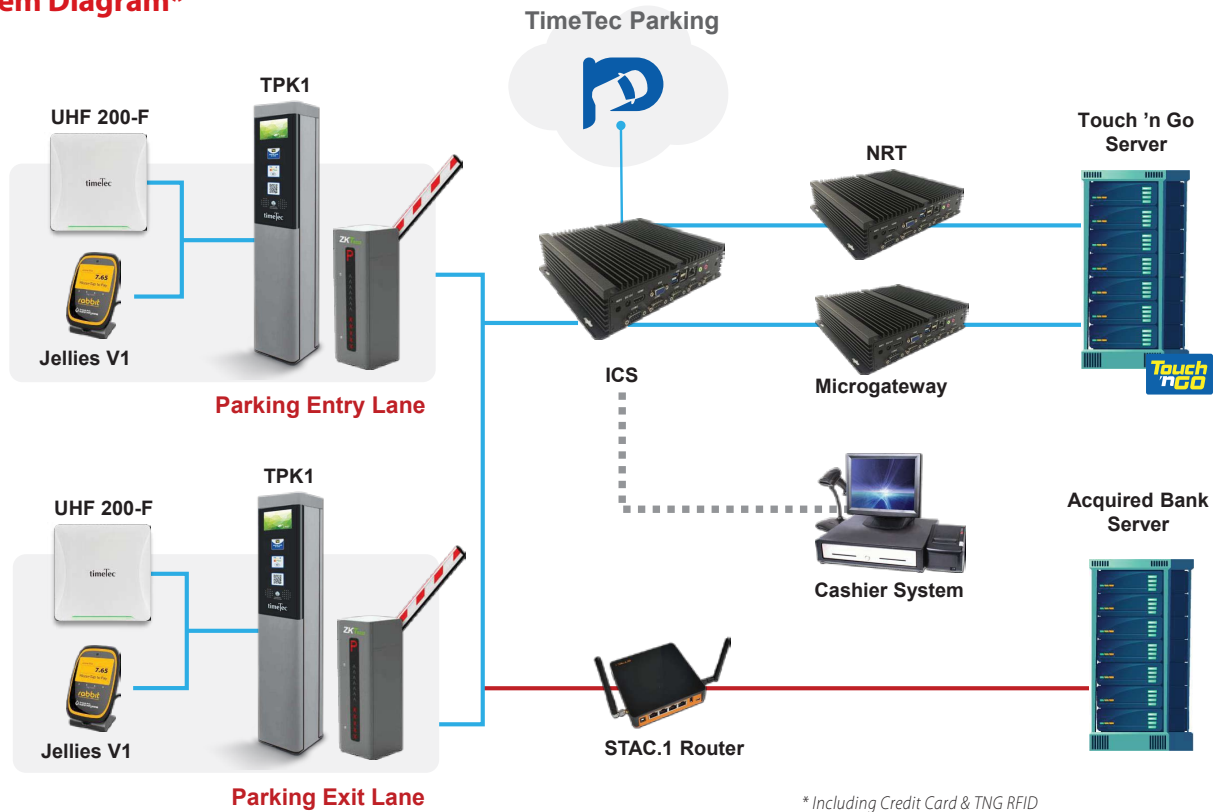
* *TNG Card: TNG Card, launched in 1997, is a prepaid smartcard that uses Mifare contactless technology. Mifare is the international de facto standard for contactless smartcards. The information contains in this card can be read and written via magnetic induction using specified radio frequency and smartcard software.*

** *TNG RFID: The TNG RFID Tag launched in 2018 is a sticker embedded with a radio frequency chip, and it is unique to each user. The tags are affixed on the windscreen or the headlamp of a vehicle, tied to the TNG eWallet and used as a form of electronic payment for tolls across the country, providing drivers with a safer, hassle-free drive. Soon TNG will expand this electronic payment mode to other facilities, including paying for fuel and parking spaces.*

Read More

SYSTEM DIAGRAM

TNG System Diagram*

TimeTec Parking

TPK1

UHF 200-F

NRT

Touch 'n Go Server

Jellies V1

Parking Entry Lane

ICS

Microgateway

TPK1

UHF 200-F

Cashier System

Acquired Bank Server

Jellies V1

STAC.1 Router

Parking Exit Lane

* Including Credit Card & TNG RFID

SYSTEM COMPONENTS

UNATTENDED TIMETEC PARKING KIOSK – TPK

SPECIFICATIONS

ITEMS	PLATINUM	GOLD	SILVER
Raspberry PI 3 B+	YES	YES	YES
SD Card 64GB	YES	YES	YES
Arduino Nano	YES	YES	YES
Arduino Nano USB Cable	YES	YES	YES
IO Board	YES	YES	YES
Microphone Amplifier	YES	YES	YES
Speaker	YES	YES	YES
12V Buzzer	YES	YES	YES
Mifare Reader	YES	YES	YES
RS232C Converter	YES	N/A	N/A
Power Supply 60 Watt with UPS	YES	N/A	N/A
SLA 12V 7AH Battery	YES	N/A	N/A
12V DC Fan	YES	N/A	N/A
LED Lamp	YES	N/A	N/A
LCD Color 7 Inch (1280 x 800)	7 Inch IPS 1280 X 800 450 cd/m2	7 Inch 1024 X 600300 cd/m2	3.5 Inch 480 X 320
HDMI L-Shape M-F Cable Connector 270 degree	YES	YES	YES
HDMI Cable (Ultra Slim)	YES	YES	YES
Switch	YES	YES	YES
Intercom Button	YES	YES	YES
Power Adapter 240VAC - 5VDC (2.5A)	YES	YES	YES
Terminal Casing	Full Metal Casing 3 Pieces 1 Door	Full Metal Slim Casing 1 Piece 1 Door	Metal Box without Stand 1 Piece1 Door
Acrylic	YES	N/A	N/A
MCB 2 Pole	YES	YES	YES
Loop Controller PD132	YES	YES	YES
Wire Harness	YES	Cable Tie/ Clip	Cable Tie/ Clip
Terminal Blocks	YES	N/A	N/A
Cable Duct	YES	Cable Tie/ Clip	Cable Tie/ Clip

*The three models come with Web-based TimeTec ICS system. Customer can opt for TPK Platinum+, Gold+ or Silver+, added with comprehensive Cloud-Based TimeTec Parking Management System.

The slim and weatherproof TimeTec Parking Kiosk, TPK, is designed to stand extreme indoor and outdoor environments for long-lasting use. TPK is a sophisticated parking machine for operators/building owners to ensure safe round-the-clock collection parking fees. This kiosk supports Touch 'n Go card, credit/debit card, and TNG e-Wallet cashless payment, and it comes in three models: Platinum, Gold & Silver, each with different specifications.

NOTE: TimeTec Smart Parking offers more than just Touch 'n Go. It accomplishes sophisticated parking installations, including multiple parking sites, parking app, season parking, valet parking, nested parking, and connection of parking system to the diverse next activities for smart building ecosystem, etc.

PC HARDWARE

- **Microgateway Server (On-Premise)**
  TNG Microgateway Server is an industrial-grade computer to install the TNG Microgateway software. This proprietary software is the central communication system to bridge TimeTec Parking Kiosk (TPK) to the TNG payment server, and it supports TNG PayDirect as a parking fee payment method.

- **ICS Server (On-Premise)**
  The ICS Server is to house the Intermediate Communication System, web-based software that connects to TPK to collect TNG card information or to Jellies Vi for collecting credit/debit card information during entries and exits. The server communicates with the TNG payment server via the NRT server or Microgateway (PayDirect). Through this server, the Admins can review the parking rules, collection records and reports. The ICS Server can also connect to a cloud-based TimeTec Parking Management System (PMS) for a larger parking deployment.

- **NRT Server (On-Premise or Cloud)**
  NRT Server is a Near Real-Time server to bridge the ICS Server and the TNG payment server. It periodically communicates with the TNG payment server to synchronize the TNG card information, including blacklisted cards, expired cards, etc. The ICS will constantly check the card ID with the NRT server to verify the card validity before granting access. The NRT server is also in charge to upload all offline parking collection to the TNG payment server when it reaches the 2000 records limit.

- **Cashier System (On-Premise)**
  Cashier System is a client system that links to the ICS Server. It is typically placed at a parking office, accessed by a parking clerk for daily operations like retrieving parking collection records, reports and validation.

SPECIFICATIONS

	TNG Microgateway	ICS Server	NRT Server	Cashier System
Physical	Industrial PC	Server	Server	Personal Computer
OS	Linux	Windows 10 Pro	Windows 10 Pro	Windows 10 Home
Processor	Intel i7	Intel i7	Intel i7	Intel i5
RAM	8GB or above	8GB or above	8GB or above	8GB or above
Harddrive	500 GB SSD	500 GB SSD	500 GB SSD	500 GB HHD
Graphics	Integrated display card	Integrated display card	Integrated display card	Integrated display card
WiFi connectivity	Built in	Optional	Optional	Optional
Network port	2	1	1	1
USB ports 2.0/3.0	4	4	4	4
Noise	Fan less design	Not applicable	Not applicable	Not applicable

UHF READER (TID) - UHF200F

TimeTec UHF 200F (TID) is a long-range Wiegand reader to read TNG RFID signals from cards/stickers up to a 15-meter distance. This reader offers smooth access to the barrier gate and provides the users with better automation and perfect hand-free access control of the parking sites. TID is a Tag Identifier of 20 bytes or 160 bits containing a unique serial number on an RIFD microchip that cannot be altered, making it a secure reader for the Touch 'n Go RFID tag for the parking system.

DESCRIPTION	SPECIFICATIONS
Reading Distance (Handheld test)	2 to 15 meters (Actual scenario test is around 8m)
Antenna Gain	12dBi
Dimensions (mm)	445 * 445 * 67.5
Weight	3kg
Power	1.2 - 4.5W
Output data partition	EPC, TID
Frequency	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
Firmware Version	MI610_2021508_V4.00
Working Voltage	DC 9-15V
Working Temperature & Humidity	-20°C - 65°C; <85%
Storage Temperature & Humidity	-20°C - 80°C; <85%
RS485 Communication	Optional baud rate (9600, 19200, 38400, 57600, 115200); the default is 115200

BARRIER GATE
ProBG3000 (with Loop Detector)

The ProBG3000 is a high performance and high-speed barrier gate. It adopts a high-performance servomotor, with a reliable and straightforward transmission structure, high-temperature resistant control panel, human interaction design on appearance and impact protection on boom connector.

DESCRIPTION	SPECIFICATIONS
Motor Type	Servomotor
Boom Type	Straight boom
Boom Length Support	3m/4.5m/6m (adjustable)
Ingress Protection Level	IP54
Operating Temperature	-40°C to +75°C
Power Supply	24V DC, AC 100~240V
Controller Frequency	50 to 60Hz
Power Consumption	100W
Case Material	Powder coated steel
Case Dimensions	360*330*1000mm
Net Weight	48kg

Optional: CREDIT CARD/DEBIT CARD MODULE

- **Credit Card/Debit Card Reader**

Jellies V1 is a credit card/debit card reader added to the TPK. It is a contactless reader (NFC) designed with a powerful processor and extensive connectivity feature, fitted in any indoor and outdoor environment for unattended parking purposes.

DESCRIPTION	SPECIFICATIONS
MContactless	Mifare, Desfire, ISO14443-A, ISO14443-B, Type-C Felica. CIPURSE, NFC Peer-to-peer mode initiator
SAM	8 x SAM Slots, ISO7816 T=0,1 Protocol
EMV	EMVCo Level 1 version 2.2, Visa Paywave, MasterCard PayPass
Memory	256MB Flash storage, 64MB RAM
TFT Mirco-SD	YES
Data Cable	RS232 Serial up to 115200bps, USB2.0 Fullspeed
ETH LAN, 3G, QR	YES (WIFI, GPS is OPT)
LCD	3.5" 320x240px, 16-bits Color"
Sound	16-bits Audio
LED, LED Ring	4x LED indicators, front and rear, 256-steps RGB color LED Ring
Dimension	92mm x 155mm x 23mm, 285g
Compliances	MVCO Level 1, Visa PayWave, Visa AP, Mastercard PayPass, MyDebit, AMEX, CE IEC60950

STAC.1 is a secure transaction aggregation console to bridge bank servers and credit/debit card readers. It can link up to 45 concurrent Jellies V1 devices via multiple downlink interfaces like Wi-Fi, Ethernet, RS232 and USB. In addition, the device also supports several highly available IP uplink through interfaces like GSM/3G and dual-port 100Mbps Ethernet.

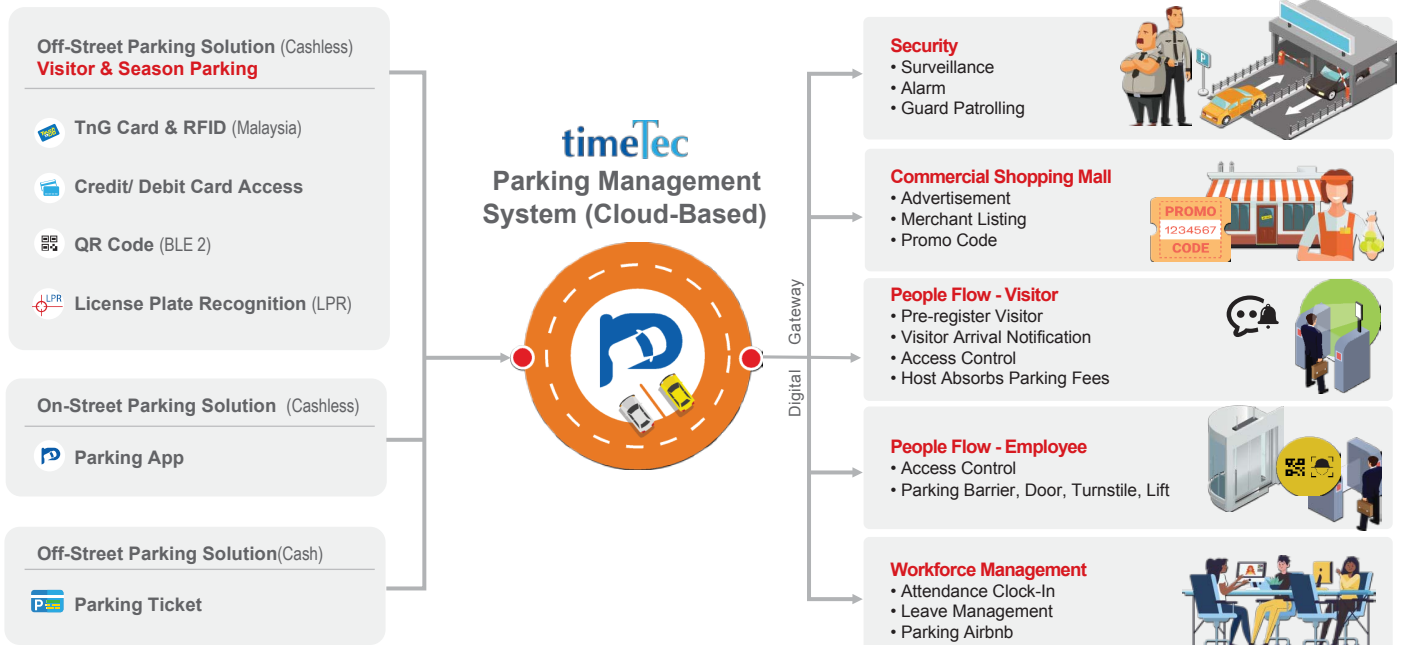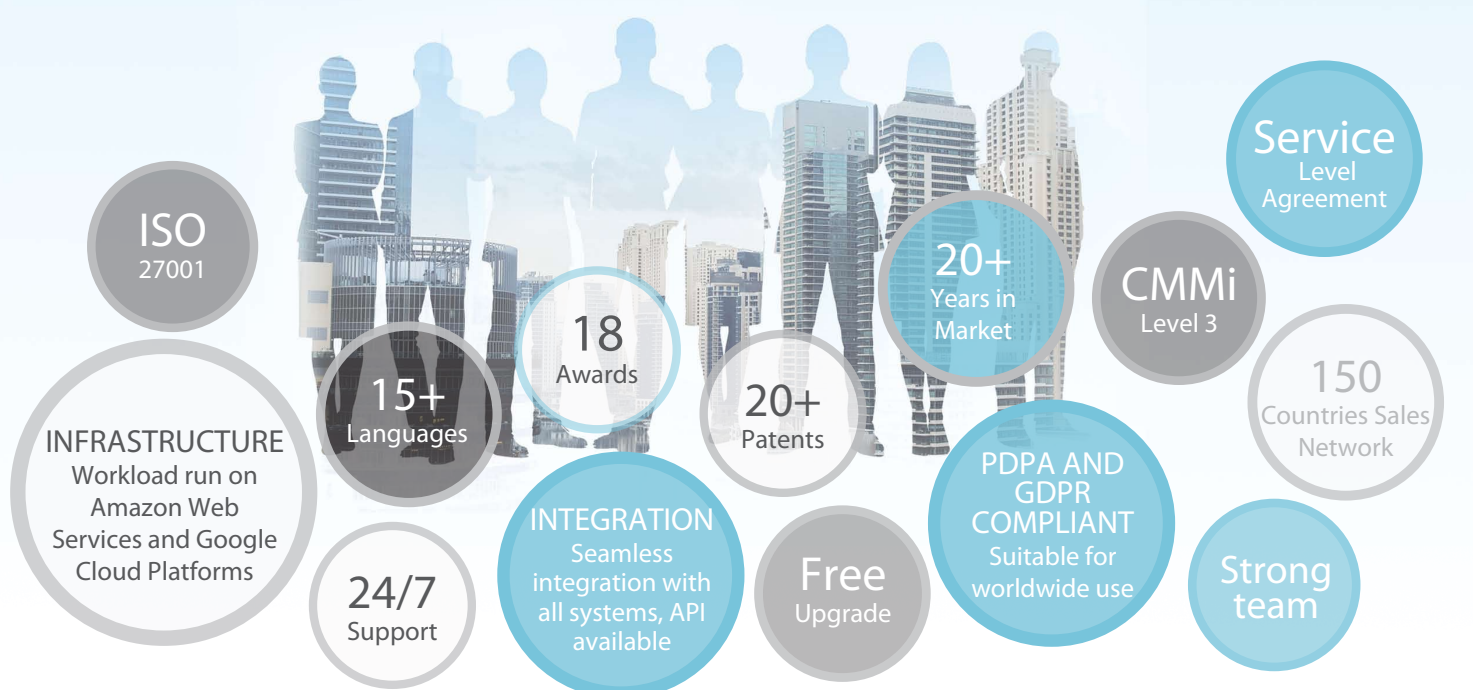| DESCRIPTION	SPECIFICATIONS
Processor	400MHz
Operating System	Coherent+ custom Linux 3.x kernel with SQL-Lite pre-compiled.
Communication	WiFi, Ethernet, RS232 and USB
Uplink	Dual - SIM, GSM/3G/4G , Dual - 100 Mbps Ethernet ports (can be downlink too)
Downlink	3 X High Speed RS232, 2 X Full Speed USB Host, 1 X 802.11 b/g/n Wi-Fi
Security	1. PCI approved WPA2/PSK for Level 1 Authentication 2. Coherent+ Standard for Strong Keys 3. Industrial Accepted SSL encryption technology 4. Coherent+ standards for secure devices

Our SMART PARKING ECOSYSTEM

FRONT END

Off-Street Parking Solution (Cashless)
Visitor & Season Parking

- TnG Card & RFID (Malaysia)
- Credit/ Debit Card Access
- QR Code (BLE 2)
- License Plate Recognition (LPR)

On-Street Parking Solution (Cashless)

- Parking App

Off-Street Parking Solution (Cash)

- Parking Ticket

BACK END

timeTec
Parking Management System (Cloud-Based)

Gateway
Digital

NEXT ACTIVITIES FLOW
Malls, Offices buldings, Schools, Government etc

Security
- Surveillance
- Alarm
- Guard Patrolling

Commercial Shopping Mall
- Advertisement
- Merchant Listing
- Promo Code

People Flow - Visitor
- Pre-register Visitor
- Visitor Arrival Notification
- Access Control
- Host Absorbs Parking Fees

People Flow - Employee
- Access Control
- Parking Barrier, Door, Turnstile, Lift

Workforce Management
- Attendance Clock-In
- Leave Management
- Parking Airbnb

We do better CLOUD SOLUTIONS
PROFILE, SUPPORT & BACKEND SECURITY

- **ISO** 27001
- **INFRASTRUCTURE** Workload run on Amazon Web Services and Google Cloud Platforms
- **15+** Languages
- **18** Awards
- **24/7** Support
- **INTEGRATION** Seamless integration with all systems, API available
- **20+** Patents
- **Free** Upgrade
- **20+** Years in Market
- **PDPA AND GDPR COMPLIANT** Suitable for worldwide use
- **CMMi** Level 3
- **Service** Level Agreement
- **150** Countries Sales Network
- **Strong team**

Supported browsers:
Chrome   Firefox   Microsoft Edge   Safari

Mobile Application:
iOS   Android

Authorized Reseller:

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