AGIL™

INTEGRATED SECURITY MANAGEMENT SYSTEM

Security Without Compromise

ST Engineering

INTEGRATED SECURITY MANAGEMENT SYSTEM

Today's ever-demanding security challenges faced by the different stakeholders of various diverse industries cannot be simply addressed with the standard off-the-shelf surveillance cameras and intruder detection systems. There arises the need for an integrated platform to provide seamless convergence of multiple technologies of video surveillance, card access, intruder detection, guard tour, under vehicle scanners, delay systems and visitor management. SecurNet in its 7th product development iteration is designed specifically for this purpose.

SecurNet is deployed in various key installations namely government buildings, healthcare institutions, military complexes, commercial establishment, transportation hubs, corrective and education institutions.

Used extensively around the world, SecurNet provides total security protection for key installations, critical infrastructures and strategic assets on an integrated command and control platform.

With its powerful kernel and database management capability, SecurNet offers a features rich integrated security management system for personnel access, alarm reporting/notification, graphical information display, and situational event control.

SCALABILITY

SecurNet can be configured from a single server platform and expanded to a multi-server/ client network across the globe for remote sites centralized command and control.

RELIABILITY

SecurNet supports database mirroring and automatic failed-over to achieve higher database redundancy in the event of system down. It also supports 3rd party high availability (HA) data protection solutions.

CONNECTIVITY

SecurNet has ready interfaces with CCTVs and lift control systems. In addition, it also provides OPC communication for 3rd party system interface.

OUTSTANDING COMMAND & CONTROL FEATURES

ROBUST ARCHITECTURE

- Built upon industry-leading MS-SQL 2016 and .NET platform with Windows 7/8.1 OS environment while ensuring backward compatibility with WinXP, Vista and SQL 2005/2008/2012.
- Allows top-down system-wide automatic and remote update on firmware packages without the need for physical access to each individual devices/sites.
- Network-wide Peer to Peer (P2P) communication between controllers facilitates system flexibility and supports enhanced controls such as global anti-passback.

INTUITIVE USER INTERFACE

- Utilises MS-WPF technology for creation of dynamic 2D/3D graphical display for status monitoring and control.
- Dynamic drag and drop feature allows placement of equipment icons onto floor plans for real-time live views, recording and status monitoring.
- Fast report generation engine that offers a series of standard and customisable report templates, exporting in .PDF, .XLS and .DOC format.
- Offers multi-monitors display on a single PC workstation to enhance the operational efficiency of the user by up to 50%.

INTELLIGENT EQUIPMENT INTERFACE (IEI)

- The IEI is the high level interface to third party systems such as CCTV, fire alarm, facilities booking, intercom etc.

CONFORMS TO INTERNATIONAL SECURITY STANDARD

- Supports Singapore Standard for Smart Card IDentification (SSID:SS529). This standard is based on International Civil Aviation Organisation (ICAO) standard for e-passports and specifies the data structure, security and access conditions for a smart card that includes personal identification data. The standard is widely adopted by various Singapore government agencies and private organisations.
- Card access standard ISO 7816, ISO 14443 and Fingerprint ISO 19794-2.

DATA PROTECTION

- Adoption of industry-leading level of encryption of up to 256 bit AES symmetric encryption and RSA-1024 bit authentication.
- High secured database partition ensuring that data segment is only accessed by authorised users.
- Anti-hacking through encryption technologies.
- Data Redundancy on Database Server (DS) to prevent loss of important data and communication links.
- SAM (Secure Application Module) cryptography for ID authentication.
- Supports multiple access card technologies such as Mifare®, Mifare Plus®, Desfire®, HID iClass, CEPAS 2.0, EZ-Link, etc .

ADVANCED BIOMETRICS

- Supports multiple fingerprint scanning technologies inclusive of optional 'Live' finger recognition.
- Traditional smart card (with or without PIN code) is considered inadequate for personal verification and the push for Biometric Technology to enhance the level of security. Our ID Verification System (IDVS) is designed for this purpose.
- The IDVS is best used for physical access control to protect Key Installation such as seaport, airport, custom checkpoint and military bases. In addition, it can also be used for ID card solution that requires biometric verification to enhance the application security level.
- Compliance with local SSID SS529 and International Standard (ICAO) for smart card identification.
- Flexible, scalable and customization to meet specific application needs.
- Highly secured that support Multi-Factor Authentication (Card + Biometrics +PIN etc).

SOFTWARE FEATURES

DATABASE MANAGEMENT

The database is the core of SecurNet system as it contains the essential system configuration parameters, card holder information, confidential building layout, floor maps etc.

The central database includes but is not limited to the following:

- Integration configuration
- Database configuration
- Floor plan setting
- Detail transaction log
- Alarm log
- System audit log

The SecurNet database server provides database mirroring and automatic fail over features for large scale system deployment that requires higher DB redundancy. It also supports third party high availability (HA) solutions such as Marathon HA for extra high availability.

DATA PARTITION

SecurNet allows users to perform database partitioning based on either physical locations (block, level or zone) or organisational structure.

Database partition enables multiple departments to share a single centralised database while maintaining the security and confidentiality of individual department's data.

In each partitioned data block, users can specify the specific information they would like to share, e.g. privileges-doors access rights, video devices images, card-holders and personnel information etc.

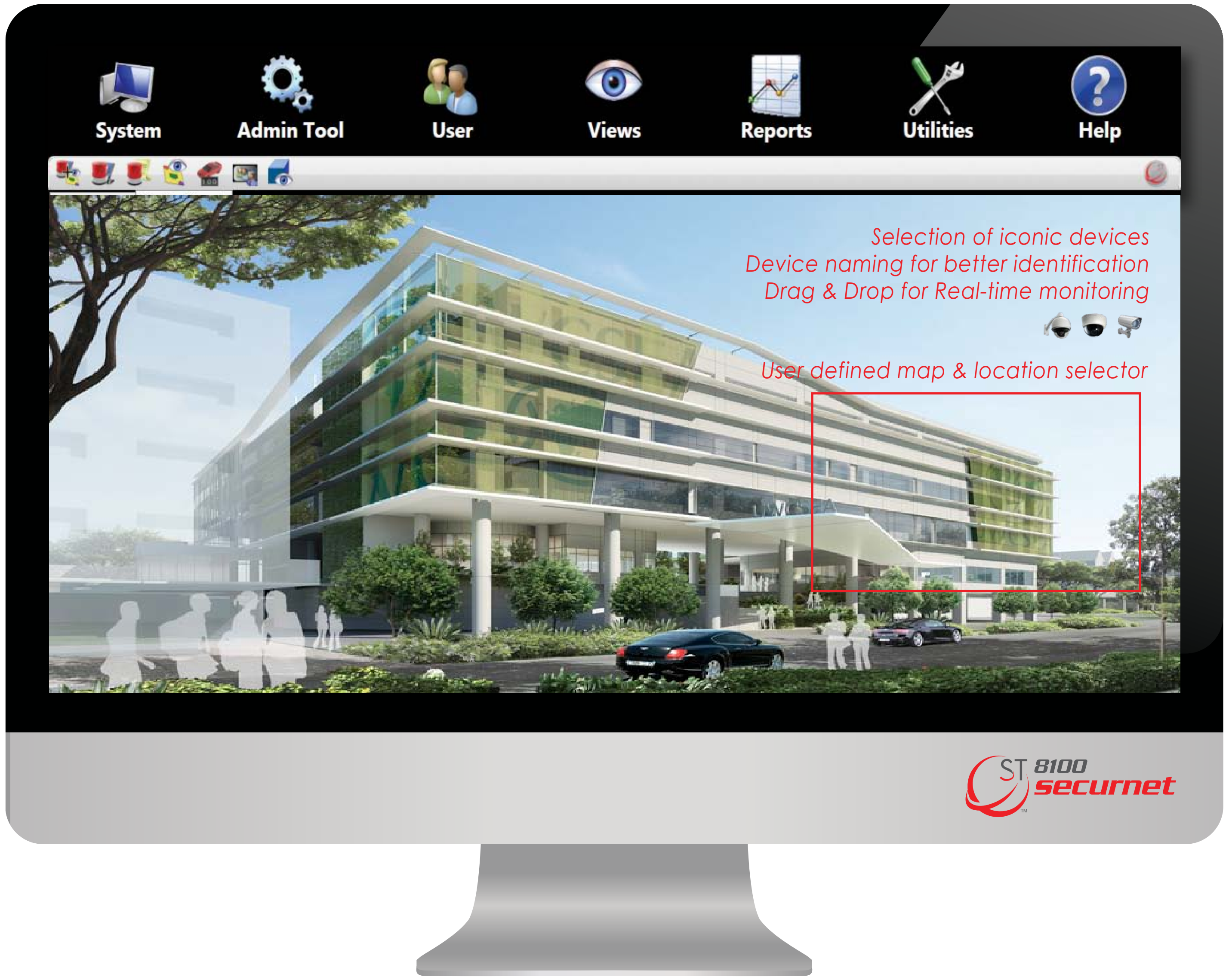
GRAPHICAL MANAGEMENT

SecurNet offers a powerful graphical display feature where floor plans can be fully customised to suit the building operation. It supports multiple image formats including JPG, GIF, BMP, etc.

The SecurNet graphic editor is equipped with a series of uniquely designed icons that represent security devices such as doors, cameras, alarm points, controllers, network devices, DI/DO points etc. Each icon can be dragged and dropped from a hierarchy tree-view list onto the map or floor plan. All the icons are animated for easy status monitoring.

Users can select a device icon point on the floor plan and automatically zoom in to the specific location. With few mouse clicks, users can perform functions associated with the device points such as lock/unlock door, change working mode, view live images and arm/disarm alarms.

In addition, shortcut buttons can be created to simplify operations or activate pre-defined SOPs (Standard Operation Procedures). For instance, pseudo points that can perform a series of operations can be introduced on the floor plan and labeled as batch operations, so that the operator does not have to rely on pull-down menus to execute each operation separately.



Selection of iconic devices
Device naming for better identification
Drag & Drop for Real-time monitoring

User defined map & location selector

MESSAGE NOTIFICATION

SecurNet provides a seamless message and email notification function to deliver system messages via GSM modems or emails based on the user access privileges.

Short Messaging Services (SMS) or emails can be triggered based on alarm priority, message type, or device/device group definitions. Notifications can be sent to multiple parties at the same time, and if the first recipient is not reachable, the system will automatically direct the message to a standby user. Content in the SMS or email body is configurable to include information such as device point name, location, status, description of the event and date/time stamp.

Time Zones can also be applied to the message notification to deliver messages within the scheduled period.

REPORT GENERATOR

The system provides a fast report generation engine to query information available in the database and present it in formatted reports. Standard report templates are provided, while customised report templates can be easily added into the system.

Each report (of any type) comes with a date and time stamp. Reports can be viewed online or be easily exported out into .PDF, .XLS or .DOC format.

Users are able to schedule the report generation at a specified date and time. This option allows the report generation task to be executed after peak hours to avoid slowing down the system performance.

Seamless integration of Video Management System

EVENT MANAGEMENT

The SecurNet integrated event and alarm management feature allows users to view, search and process all access control transactions, alarm, system responses and operator actions.

Users can directly launch relevant objects like video tours, live camera views or cardholder particulars for any event. With permitted authorisation, users can also manipulate data fields, change views, and perform quick searches and queries either in realtime or from historical databases.

TIME ATTENDANCE

The SecurNet Time Attendance function allows users to compute an employee's daily clock-in and clock-out time automatically.

By pressing a function key on the card reader, followed by the card authentication, the system is able to capture the IN/OUT time data and process the data based on work shift definitions in the system.

A comprehensive time attendance report can be generated every month to list employees' working hours details. The report is generated in .PDF format by default, and it can be exported directly to .XLS or .DOC format for Human Resource administration.

TIME ZONE & TIME ACCESS

SecurNet offers a time based function that can be applied to all system activities including door access, message notification, time attendance management, event response, and system administration etc. Every system activity can be assigned with time zone and time access definition.

The time zone is specified by a start and a stop time. There are 4x sets of start-stop times for each day. The time zone assigned to the cardholder for a given day for door access will be determined by his assigned access privilege.

Time access allows different sets of time zones to be grouped together in a seven-day per week period plus any number of special days. These groups can be used to configure the access privileges of cardholders for each access door reader.

VISITOR MANAGEMENT

SecurNet offers optional client/server based and web-based visitor management and facility booking applications.

Users can input the visitor's particulars, visit schedules and room allocation through the visitor management application. Upon visitor's arrival, the security or reception personnel will verify the identity and issue a pass accorded with the specific assigned access rights.

The facility booking application is fully integrated with the access control system to grant access only to designated meeting rooms or other locations in the facility based on booking arrangements.

CARD PERSONALISATION

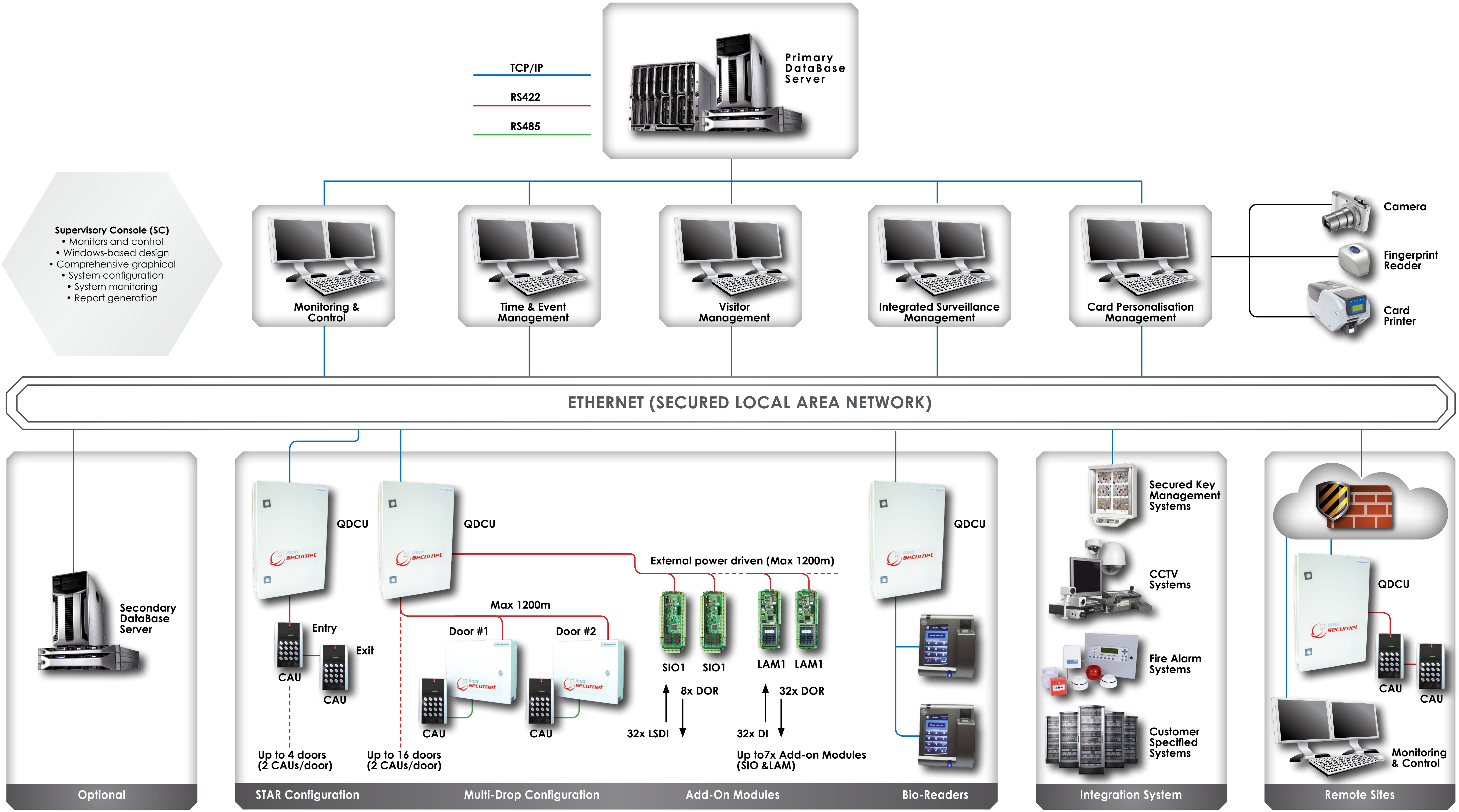
The card personalisation function allows the system administrator to input the card holder's informations, encode and print cards for individual card-holders.

SecurNet provides a user-friendly interface for administrator to capture or import photos, biometrics data (fingerprints) and signatures and automatically process the cardholder information for ICAO and SSID standards conformance. It supports BMP, GIF, JPG and JPEG2000 photo formats.

A flexible and easy-to-use badge designer application is provided for the user to create customised card layouts. As the badge design is integrated to the same database of the SecurNet, each cardholder's particulars can be directly retrieved from the central database or imported from a MIS or SAP system.

Batch production is supported; the administrator can programme the number of cards to be produced and allow the software to complete the job.

SECURENET v7 ARCHITECTURE



Supervisory Console (SC)
- Monitors and control
- Windows-based design
- Comprehensive graphical
- System configuration
- System monitoring
- Report generation

Database Server (DS)
- Stores system and cardholder configuration data, message & event logs
- Supports distributed database architecture
- Provides hot standby redundancy
- Continuous operation

Quad Door Controller Unit (QDCU)
- Connects field devices
- Standalone
- Add-on modules
- Serial Input/Output (SIO)
- Lift Access Modules (LAM)

Card Access Unit (CAU)
- Card readers
- Supports multiple card technologies
- Contact or contactless
- Pin or biometrics

ID Verification System (IDVS)
- Advanced Multi-Factor Authentication (MFA) integrated with biometrics identification
- Robust system compliance to Singapore Standard for Smart Card ID, SSID (SS 529)
- Reliable and scalable expansion
- Database with information stored securely on the smartcard

Intelligent Equipment Interface
- Interface 3rd party system
- CCTVs, fire alarm, facilities bookings
- Command & control from single PC
- Hot-standby mode

Remote Sites
- Interface to administer
- Control remote access to SecurNet
- 10 Concurrent authorized users
- Standard browser

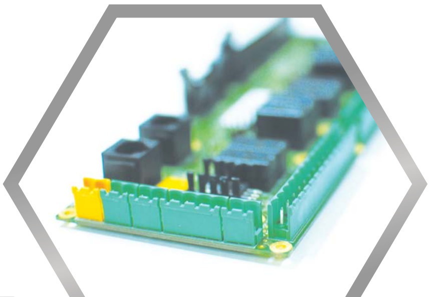
ADVANCED CONTROLLER TECHNOLOGY

QUAD DOOR CONTROLLER UNIT

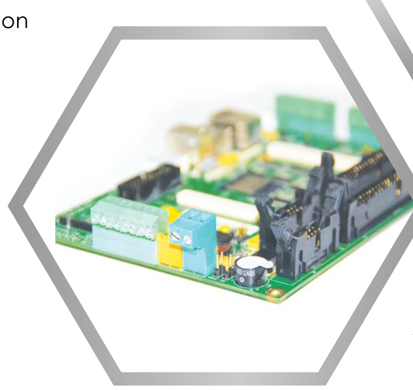
SecurNet Quad Door Controller Unit (QDCU) is a high capacity intelligent LAN-based door access controller with an intrusion alarm monitoring function.

This intelligent controller is powered by a 32-Bits Atmel ARM 9 Thumb-based microcontroller that supports DSP Instruction Extensions and Jazella® Technology for Java® Acceleration.

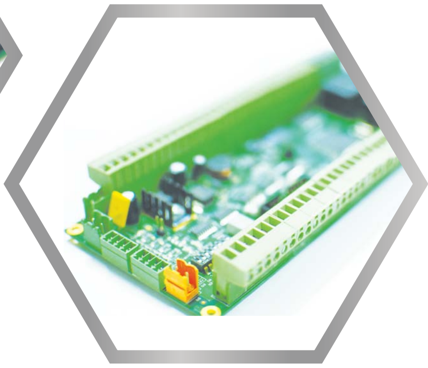
It incorporates 10/100Mbps Ethernet port for direct network connection and communicates downstream through RS422 to other optional modules or readers.



DUAL DOOR MODULE



ARM9 CPU



SERIAL I/O MODULE

FEATURES

- Reset and shutdown functions
- Battery backup registers
- Clock generator and power management
- Advanced interrupt controller and debug unit
- Periodic interval timer, watchdog timer and double real-time timer
- Encrypted peer to peer communication using IPsec protocol

A complete standalone QDCU is equipped with a ARM9 central processing unit and 2x Dual Door Module (DDM) unit.

In its basic configuration, a QDCU can support a maximum of 8x access card readers and 7x optional modules as expansion.

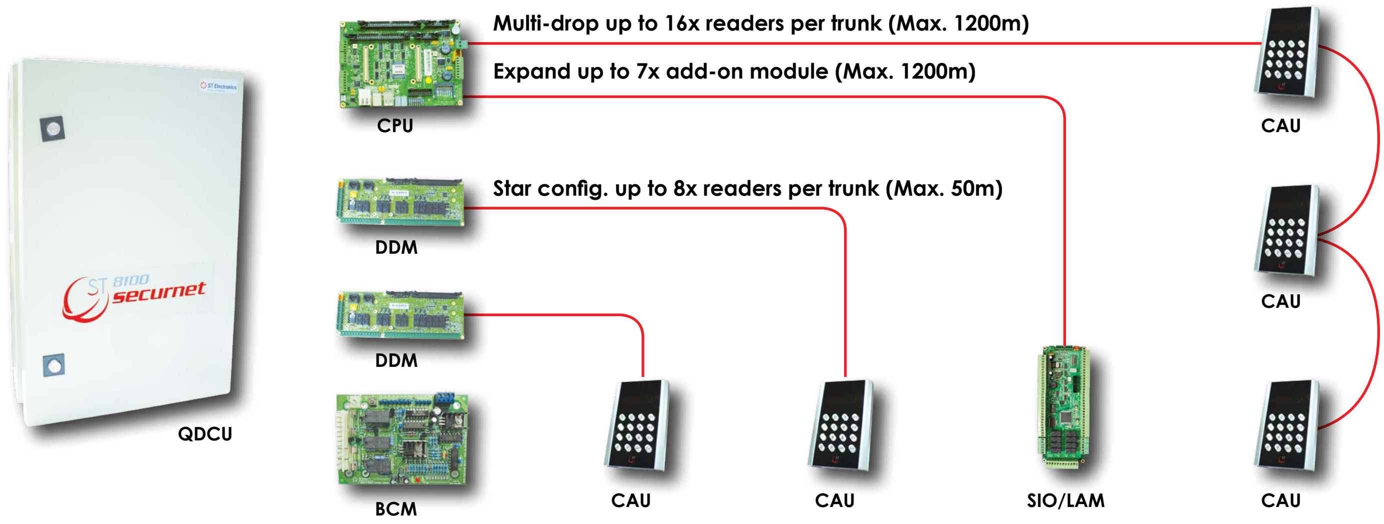
An add-on module, SIO (Serial IO module) with a QDCU can cater up to 224 alarm points and 56 digital output points through a daisy chain configuration.

This makes it an excellent field controller for intrusion alarm monitoring or any distributed security management applications.

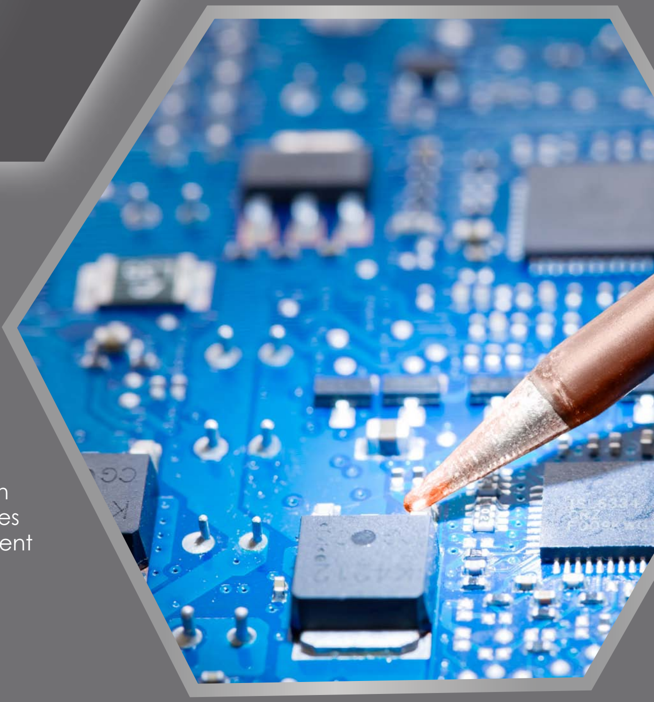
INTELLIGENT POWER MANAGEMENT

QDCU offers a battery charging module (BCM) that:

- Provides continuous charging to the backup battery
- Monitors the power supply and alert on battery low-voltage
- Provides power status feedback to the central software


Multi-drop up to 16x readers per trunk (Max. 1200m)
Expand up to 7x add-on module (Max. 1200m)
Star config. up to 8x readers per trunk (Max. 50m)
CPU
DDM
DDM
BCM
QDCU
ST 8100 securnet
CAU
CAU
SIO/LAM
CAU
CAU
CAU

QDCU SPECIFICATIONS



Quad Door Controller Unit (QDCU)
QDCU connects field devices such as card readers, sensors, locking devices, etc. It can work as a standalone once the database is downloaded and connected with Card Access Unit in either STAR or Multi-drop configuration. The controller also offers add-on modules, Serial Input/Output (SIO) and Lift Access Modules (LAM) to create greater flexibility and reliability for different project requirements.

SYSTEM SPECIFICATIONS

Number of Doors Supported	Up to 4 doors or 8 readers using STAR topology Up to 16 doors or 32 readers using Multi-Drop topology
Reader Operation Mode	Card, Card+PIN, Card+Biometric, Supervised Access, Dual-Badge Mode
Number of Input/Output Points Supported	224x Digital Inputs (DIs) and 56x Digital Outputs (Dos) at maximum 7x SIO modules per controller. Each SIO provides 32 DI and 8 DO
Peer to Peer Communication	With IP secured encrypted communication and without higher level applications
Standalone Mode	At this mode, functions are able to perform without disruption All events and data are stored in controller's buffer
Anti-passback	Support Global and Zone specific anti-passback
Self Diagnostic	In-built self diagnostic feature for quick trouble-shooting

OPERATIONAL SPECIFICATIONS

Card Holder Capacity	Up to 200,000 holders using STAR topology Up to 100,000 holders per door using Multi-Drop topology
Event Buffer Size	Up to 200,000 events can be buffered and stored in offline mode
Number of Blacklist	Up to 100,000 blacklist holders
Number of Access Grouping	Maximum 1024 accesss groups
Holiday Definitions	In as many that can be defined in a calender period
Time or Event Response Programs	Maximum 256 schedules, with each up to 255 cascaded command sequence. Each command sequence consisting up to 64 actions steps
Time Zone	Maximum 255 time zones, with each consist of 4 configurable start/stop time set

ELECTRICAL SPECIFICATIONS

AC Input	90-260 VAC 50/60 Hz (auto switching)
Power Consumption	Max. 60VA
Backup Battery	12VDC 7AH, Lead Acid Maintenance
Built-in Charger	Charging Voltage: 13.8V. Full Charge Time: 4 hours

MECHANICAL PARAMETERS

Standard Package	Housed in a lockable enclosure panel, each QDCU comes with 2x dual door modules, power supply and back up battery included
Dimension	600 (H) x 400 (W) x 200 (D) mm
Weight	18 lbs (7kg)

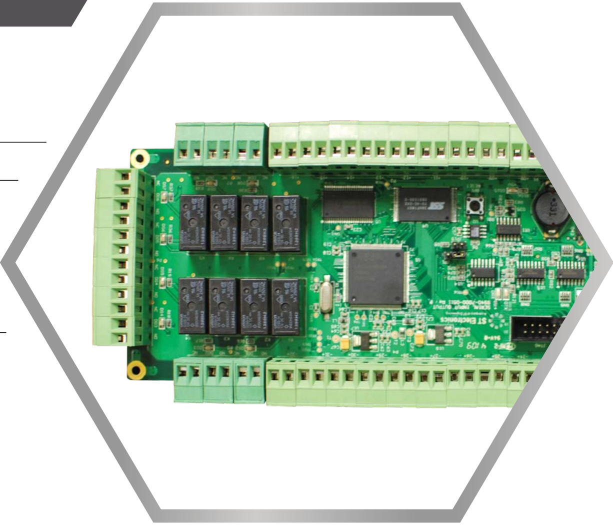
OPERATING ENVIRONMENT

Temperature	Storage: -25°C to 70°C Operating: 10°C to 60°C
Humidity	5% to 90% non-condensing

OPTICAL ADD-ON MODULE

SERIAL I/O MODULE (SIO) FOR SERIAL I/O TERMINATION

Micro-controller	32 bits ARM7 Chips
Communication ports	RS422 Connection (4 wire), Maximum distance 1200m
Onboard I/O	32x Line Supervised Digital Input, 8x Digital Output Relay
Onboard Display	7 segment LED for status indication
Dip Switch ID	4 Bits address
Onboard Power	12V DC / 1A



Key Access

EM Lock

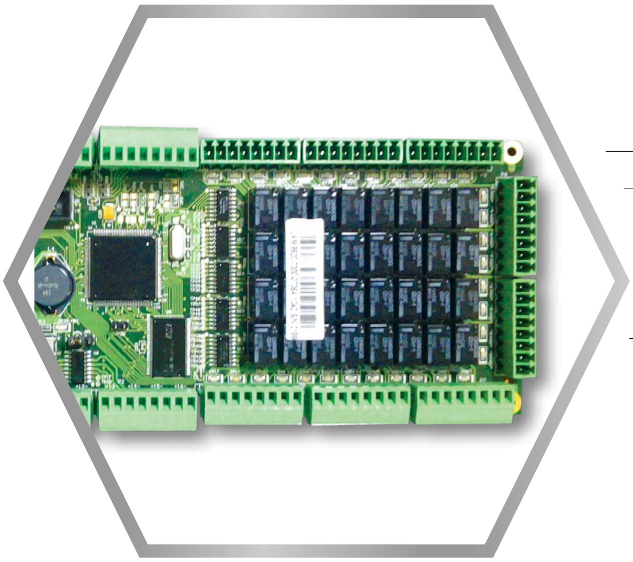
Break Glass

Door Sensor

Motion Detector

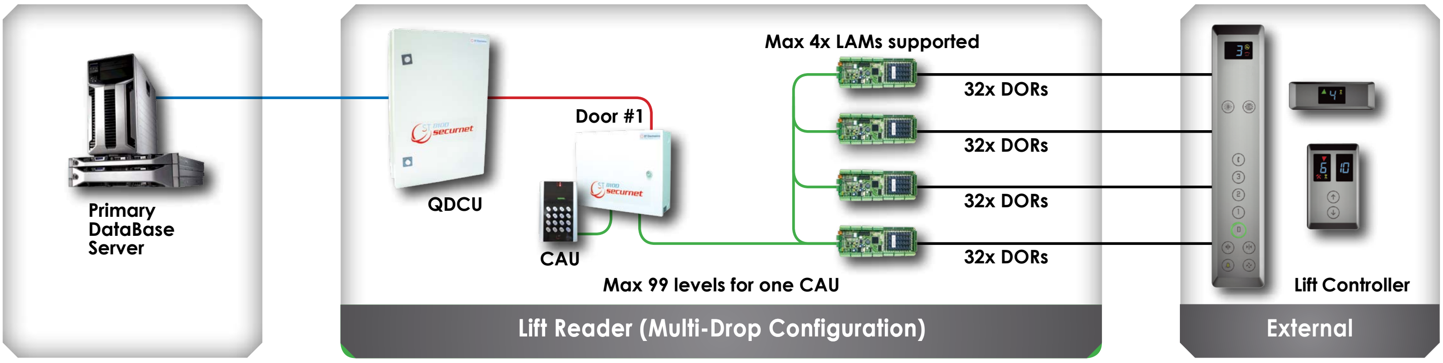
Press to Exit

Common Serial I/O Points



LIFT ACCESS MODULE (LAM) FOR LIFT ACCESS OPERATION

Micro-controller	32 bits ARM7 Chips
Communication ports	RS422 Connection (4 wire), Maximum distance 1200m
Onboard I/O	32x Digital Input, 32x Digital Output Relay
Onboard Display	7 segment LED for status indication
Dip Switch ID	4 bits address
Onboard Power	12V DC / 1A



CARD READER SPECIFICATION

SecurNet ST8100 series of in-house designed and built access card readers are unobstrusive in appearance and comes in variety of aesthetically pleasant housing. Featuring the latest card technologies, encryption algorithms, fast processing speed and high capacity it is meant to met user's requirement in the highest security environment.

	MARS READER	MARS 1/2 READER	PLUTO SMART BIOREADER
Microproccessor	16MHz Intel i80C251TB	60MHz ARM7 32-Bit RISC Processor	600MHz ARM 11 32-Bit Processor
	-	-	Android OS, 256MB RAM with SD memory Card Slot
Communication Ports	RS485	RS485 or TCP/IP	RS422 & TCP/IP
Display & Kepad	-	OLED (supporting English & Chinese characters)	4.3" Colour LCD, Touch Screen
	-	12 numeric keys + 4 function keys	4-8 digits virtual Keypad with scramble PIN feature
	Red & Green LED	Red & Green LED	Screen format: JPEG, BMP, GIF, PNG
	Multi-tone buzzer	Multi-tone buzzer	Multi-tone buzzer
Supported Card Technologies	ISO 14443 Type A/B, Mifare S50 & S70, Desfire, HID prox, EZ-link, CEPAS, SS529:SSID compliant for Mars 1/2, Bio-Mars & Smart BioReader only		
Modes of Operation	Normal (Card Only)	Secure (Card & PIN)	Bio-secure (Card, PIN & Fingerprint)
Card Capacity	-	Mars - 50,000 WL	100,000 WL (w/o Bio-data)
	-	Mars1/2 - 100,000 WL	5,000 WL typical (w Bio-data)
Supported Secured Access Module (SAM)	-	ISO 7816	ISO 7816 (Optional)
Physical Enclosure	Indoor/Outdoor	Indoor	Indoor
	150 (L) x 100 (W) x 20 (D) mm	150 (L) x 100 (W) x 20 (D) mm	146 (L) x 116 (W) x 48 (D) mm
	Surface Mount	Surface Mount	Surface Mount
Operating Environment	0-70°C (Operating), -20-70°C (Storage), 10-90% Relative Humility, non-condensing IP56		
Power Supply	12VDC, 180-280mA (Typical)	12VDC, 180-280mA (Typical)	12VDC, 500mA (Typical)

ST Engineering Electronics Ltd.

www.stengg.com
URS-Marketing@stengg.com