



# Suprema

BIOMETRICS & SECURITY



# WHY SUPREMA?

## 1 The World's Best Performing Fingerprint Algorithm

Suprema's multi-award winning fingerprint algorithm is at the heart of every Suprema product. Suprema's highly sophisticated fingerprint technology has been recognized by numerous competitions and compliances including FBI IQS, STQC, FVC and NIST MINEX. Suprema algorithm features unrivalled reliability and performance as the world's fastest and most accurate fingerprint algorithm providing maximum protection for users.

## 2 The World's Most Widely Used Biometric Technology

Suprema's biometric technology is used across wide areas of applications including physical access control, public/civil ID projects, fintech, forensic science and mobile authentication. Suprema's biometrics is one of the most widely used technology and supports over 1 billion people globally providing protection, security, and convenience.

## 3 Complete Identification Solution Provider

Suprema provides comprehensive portfolio of identification solutions for various applications. The class leading fingerprint, face, multi-modal biometrics and RFID technology is used for electronic access control, ID issuance, time & attendance and mobile authentications.

## 4 Product Quality & Reliability

When it comes to the security solutions, our focus is on delivering the best quality products that offer high performance and reliability throughout their lifecycle. At Suprema, ISO9001/14001 standards are applied to ensure quality throughout the manufacturing process. Suprema operates South Korea's largest dedicated biometrics research and manufacturing facility to ensure precise quality control.

## 5 Global Brand Recognition

Suprema has served as the market leader of biometrics and security technology for over a decade and has earned a number of industry awards and recognition. Suprema is one of the World's top 50 security company(\*A&S Security 50) and is the winner of product awards from Detektor(Sweden), All-over-IP(Russia) and ISC Brasil in recent years for its innovation. Moreover, Suprema received prestigious recognitions including Forbes, Frost & Sullivan and Deloitte for its excellence in its entrepreneurship.

## 6 Global Sales Channel

Suprema has established strong sales channels and network in over 133 countries and over 75% of revenue is derived from authorized sales channels. Suprema provides structured/bespoke product trainings, webinars, marketing supports with our partnership programs to support our partners to extend their competency and revenue.

## 7 Technology Partnerships

Suprema developed alliance with influencing global security technology partners to provide extensive application possibilities to fulfill each customer's unique requirements. In order to maximize user benefits with superior features and solutions, we have integrated over 70 of the best-of-breed leading solutions from the world's leading security vendors.

## 8 End-to-end Solution Provider

Suprema is uniquely suited to offer versatile biometric-based security solutions for wide array of applications. From industry-leading biometric terminals, IP readers, access control management terminals and time & attendance solutions, Suprema is committed to providing innovative, superior-quality products that help businesses of any kind meet their security needs.

## 9 Beyond Technology

Commitment to research and development has always been a key element of Suprema's success. Over 40% of Suprema's employees are engaged in R&D efforts and Suprema invests more than 16% of its turnover in R&D every year. With our years of expertise in biometrics and security, Suprema owns over 100 technology patents and continuously introduces technology initiatives to the industry.

## 10 Financial Stability & Growth

During the last decade, Suprema has achieved phenomenal growth of 38% CAGR (2006-2014) with its innovative technologies and products. As one of the largest biometrics powerhouse in the world, Suprema's market capital exceeds USD300 million. (Listed in KOSDAQ)

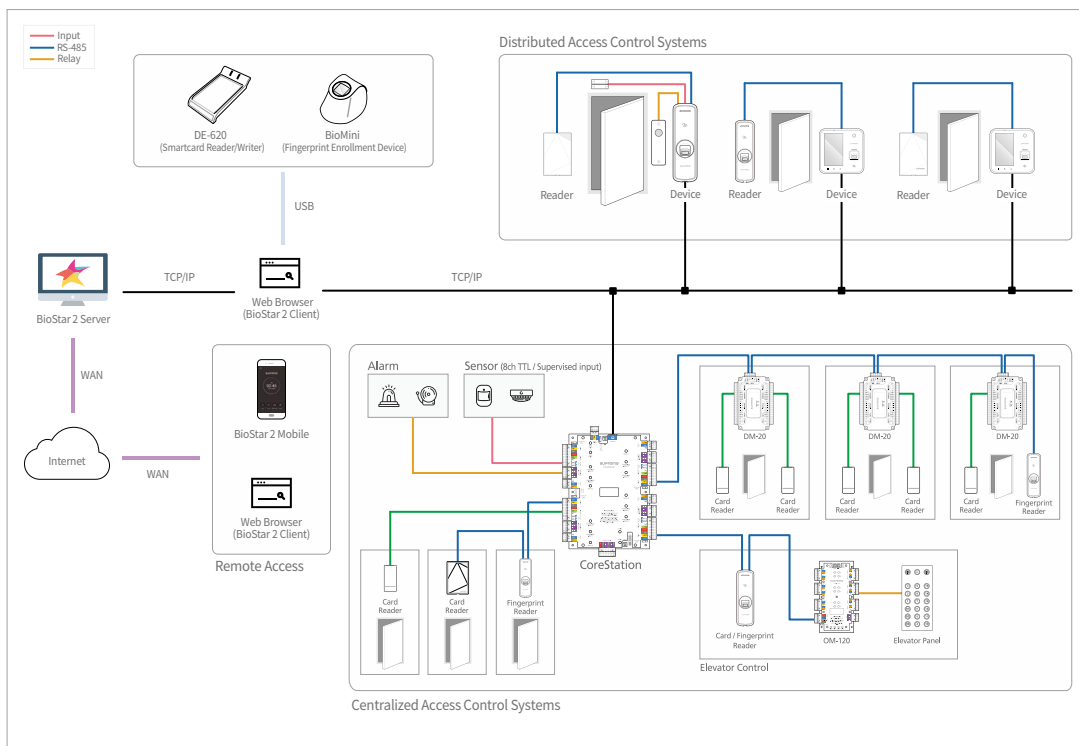
# BioStar 2 Access Control Management

BioStar 2 is a web-based security platform that features comprehensive access control solution with the powerful biometric framework. BioStar 2 expands its versatility even further with its support for time & attendance module, API, Mobile, and Device SDK.



## Advanced Access Control Module

BioStar 2 access control module is the hybrid system which uses the distributed access control system topology and the centralized access control system topology together. Whatever your system is, BioStar 2 will provide a comprehensive access control solution.



		Basic Edition	Standard Edition
System	License	Free	BioStar2 AC License
	Type	Web Server	Web Server
	OS	Windows	Windows
	Client	Web Browser (Chrome)	Web Browser (Chrome)
	Max. Client	100	100
	Database	MariaDB, MS SQL Server	MariaDB, MS SQL Server
Device	Remote Access	Yes	Yes
	Max. Device	1,000	1,000
	Max. Slave per Master(RS485)	31 (Up to 8 Fingerprint Devices)	31(Up to 8 Fingerprint Devices)
	RS485 Protocol	OSDP Supported	OSDP Supported
	Multi Door Control	Yes	Yes
	Device Admin Level	All / User / Config Admin	All / User / Config Admin
	Auto Reconnection to Server	Direct & Server Mode	Direct & Server Mode
	USB Enrollment Device	BioMini, DUALi DE-620	BioMini, DUALi DE-620
	Max. Card per User	8	8
	Max. Fingerprint per User	10	10
User	Auto User Sync to Device	Yes	Yes
	Access-on-Card	Yes	Yes
	Secure Credential	Yes	Yes
	Mobile Card	Yes	Yes
	Inactive User Report	Yes	Yes
	Custom Fields	Yes	Yes
Access Group	Max. Access Level	128	128
	Max. Access Group	128	128
	Max. Access Group per User	16	16
	Max. Door per Access Level	128	128
	Auto Access Group Sync to Device	Yes	Yes
Elevator	Access Group Report by Door/User	Yes	Yes
	Max. Floor per Elevator	-	192
	Max. Reader per Elevator	-	4
	Relay Open Time Control	-	Yes
	Floor Status Monitoring & Control	-	Yes
Zone	Alarm Trigger	-	Individual Relay or All Relays
	Max. Zones	-	100
	Max. Device per Zone	-	1,000 Global, 32 Local
	Anti-passback	Single Door APB	Global, Local, Single Door APB
	Fire Alarm	-	Global, Local
	Scheduled Unlock / Lock	-	Local
Others	Intrusion Alarm*	-	Local
	Dashboard	Yes	Yes
	Server Matching	-	Yes
	Audit Trail*	Supported	Supported
	Video Log*	-	Supported
BioStar Mobile App Support	Yes (User, Door, Monitoring, Alarm, Mobile Card)	Yes (User, Door, Monitoring, Alarm, Mobile Card)	

\* BioStar2.5.0 or later

# BioStar 2 TA Time and Attendance Management

BioStar 2 TA is a time and attendance module that serves as an add-on to the BioStar 2 platform. The BioStar 2 TA module provides comprehensive time and attendance functionalities to BioStar 2. Combined with user-convenient features such as time card calendar view and overtime rule, BioStar 2 TA simplifies complicated time and attendance management by offering flexibility for diverse applications.



Fully Customizable  
Time Code



Convenient  
Overtime Rule

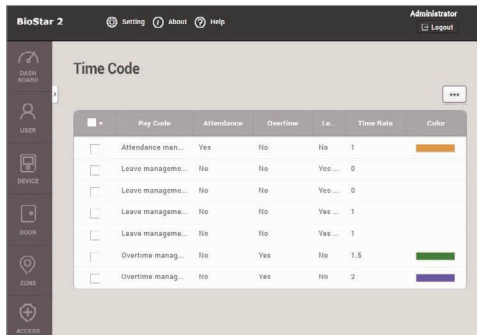


Flexible Work  
Shift Support



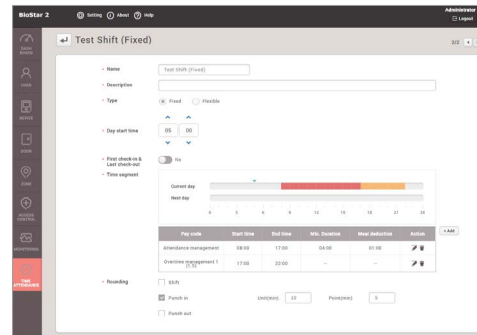
Time Card  
Calendar View

	Basic Edition	Standard Edition	
Time Attendance	License	Free	BioStar2 TA License
	# of Shift	Unlimited	Unlimited
	# of Schedule	1	Unlimited
	# of User per Schedule	99	Unlimited
	Shift Type	Fixed Daily Flexible	Fixed Daily Flexible
	Report	Supported	Supported
	# of Leave per User	Unlimited	Unlimited
	Calendar View	Supported	Supported



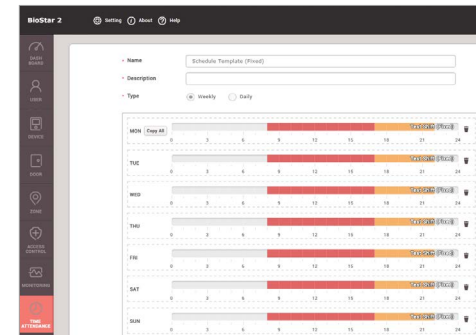
## Time Codes

Administrators can designate different Time codes to be applied at set schedule. Time codes can range from attendance, leave, overtime, outside duty, and vacation. Time codes are to be individually colored for easy recognition.



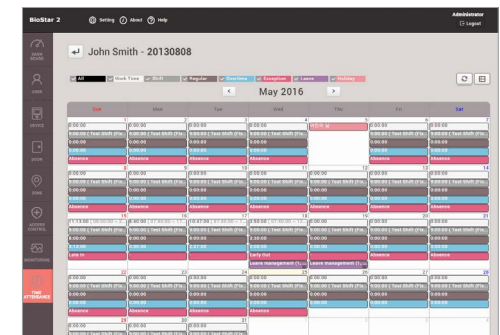
## Shift Settings

The shifts can be built into a schedule along with period, user, overtime rule, and vacation schedule to manage human resources.



## Schedule Templates

Each shift can be arranged or assigned into a daily or weekly schedule template that can be retrieved later to be assigned to a user or user groups.

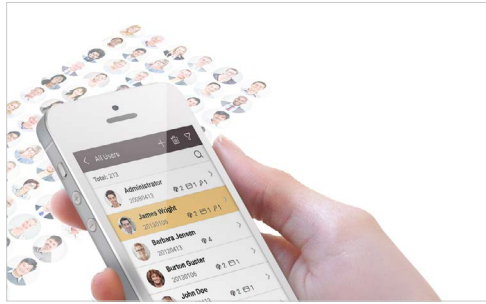


## Calendar View

BioStar 2 TA's Report supports 'calendar view' interface to allow administrators easily view and edit individual's T&A records and schedules.

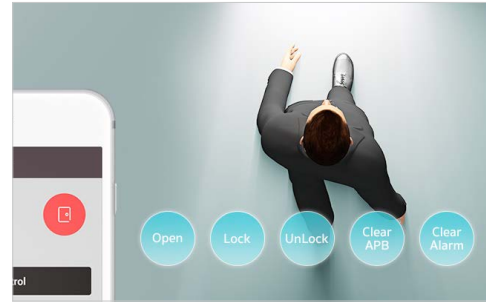
# BioStar 2 Mobile

BioStar 2 Mobile app gives administrators and operators the freedom to manage BioStar 2 anywhere. BioStar 2 Mobile is developed using BioStar 2 API.



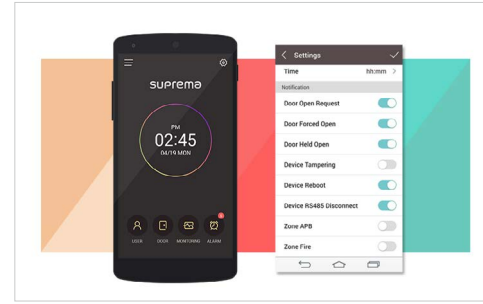
## Manage Users on the Go

Administrators can easily add, edit or remove users remotely with their smart phone app. By connecting BioMini to administrator's Android smartphone with OTG cable, administrators are now able to register users at any location, any time.



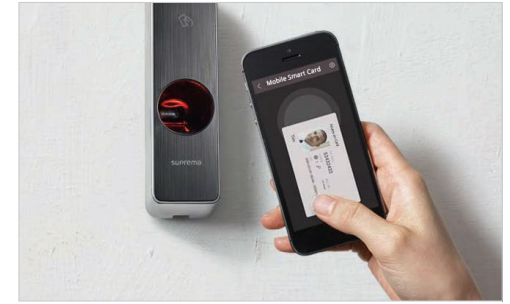
## Control Doors Remotely

BioStar 2 Mobile App allows administrators to control the door remotely on their mobile device. It allows administrators respond to any requests without being tied to their desk.



## Live Notifications

Receive live notification and respond to requests or alarms quickly without accessing BioStar 2 via client. events can be notified through the mobile app.

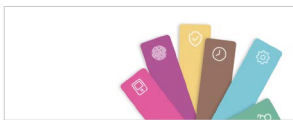


## Secure Your Identity on Your Device

Unique to the industry, BioStar 2 Mobile stores biometric information on each user's smartphone. By avoiding users' privacy stored on access readers or database servers, the Match-on-Mobile provides faster and more accurate biometric security while resolving privacy issues caused by fingerprint database.

# BioStar 2 Device SDK

BioStar 2 Device SDK development framework allows developers to seamlessly integrate core functionality of Suprema biometric devices and terminals with 3rd party software.



## Create Powerful Solutions

Use BioStar 2 Device SDK to simply integrate and control biometrics devices from 3rd party systems and enhance security capability of the system by harnessing the power of true identity.



## Multi Language and OS Support

BioStar 2 Device SDK supports multiple programming languages including C++ and C#. It also supports Linux and Windows to provide versatile programming environment.

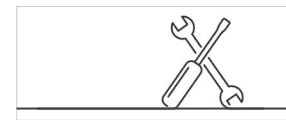


## Independent Data Structure and API

BioStar 2 Device SDK uses single unified structure and API for all different types of supported devices. The developer doesn't have to use complicated branching statements, which simplifies development.

# BioStar 2 API

BioStar 2 API is comprehensive web application programming interface that provides necessary tools for developers to create applications or integrate BioStar 2 into 3rd party software.



## Build the Perfect Solution

BioStar 2 API provides everything that is needed to develop a perfect solution for customers needs. Whether it is an integration of BioStar 2 into existing security software or development of new security solution, BioStar 2 API will provide the necessary tools.



## More Ways to Do More

BioStar 2 API provides necessary tools to control devices, terminal, users, and biometrics. The API is set of REST APIs, which uses JSON formatted data for requests and responses for easier understanding.



## Ready to Share, Open Source

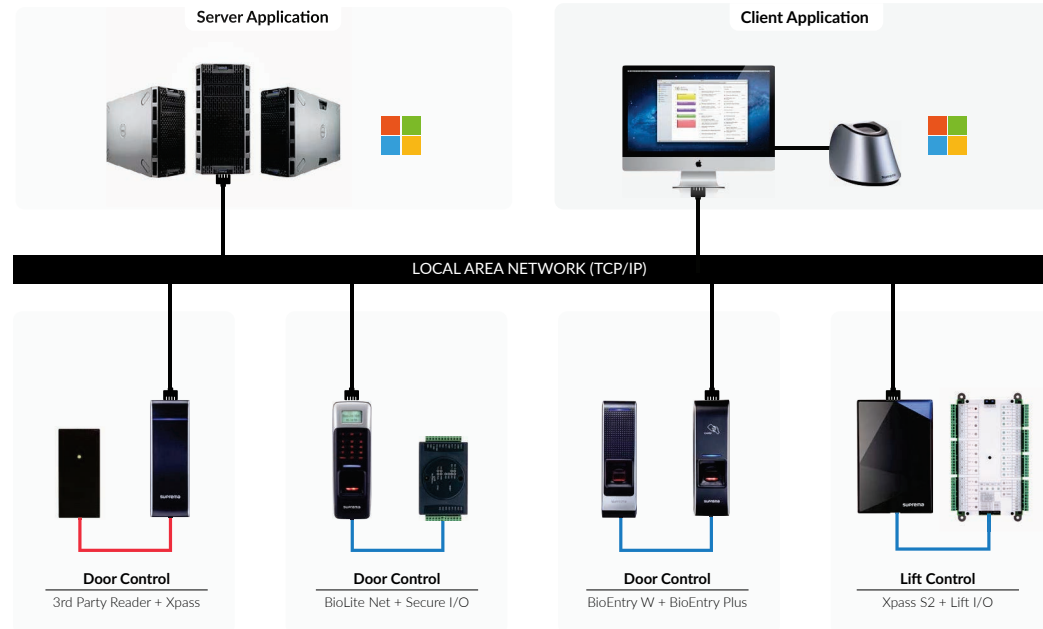
All additional functionality aside from access control features that is considered as the core is provided through modularized app. Most of the apps provided will be developed using BioStar 2 API and will be available as open source. It will allow the apps to be used as developer reference for custom development.

# BioStar 1

BioStar 1 is Suprema's access control system based on IP connectivity and biometric security. It is designed to take advantage of distributed IP Access Control System. A biometric device installed at each door works not only as a reader, but also as an intelligent controller on its own. A separate secure relay unit can be installed for additional security.

## Full Access Control and Time & Attendance Functions

BioStar 1 has integrated access control and time attendance features. With support for wide choice of third-party devices and integrations, BioStar 1 is an ideal software solution for implementation of various projects large or small.



Wiegand  
 RS-485  
 TCP/IP

		Basic Edition	Standard Edition
System	License	Free	USB Dongle
	System Architecture	Client/Server	Client/Server
	Operating System	Windows	Windows
	DB	MSSQL, MySQL, Oracle	MSSQL, MySQL, Oracle
	Server Matching	-	Yes
	Max Device	20	512
	User Import/Export	USB,CSV	USB,CSV
	Concurrent Client PC	2	32
Access Control	Time Schedule	128	128
	Access Group/Level	128	128
	Max Access Group per User	4	4
	Max. Fingerprint per User	2 to 10	2 to 10
	Max. Doors	20	512
	Template on Card	Yes	Yes
	Device Administrator	User property	User property
	Zone	-	APB, Entrance limit, Alarm, Access, Fire alarm, Muster
	Email Notification	-	Yes
	Roll Call	-	Yes
	Visual Map	-	Yes
	Event Monitoring	Yes	Yes
Time & Attendance	IP Camera	-	Yes
	NVR Integration	-	Yes
	Lift Management	-	Yes
	Work Time Calculation	Yes	Yes
	Holiday/Leave Management	Yes	Yes
	Report	Yes	Yes
	In/Out Board	-	Yes

# SUPREMA TECHNOLOGIES

## Fingerprint Algorithm

Suprema's world renowned fingerprint algorithm lies in the heart of every Suprema fingerprint devices. The highly sophisticated algorithm has been recognized by both FVC and NIST MINEX and was proven to be one of the fastest and most accurate algorithms in the world. As a result, Suprema algorithm performs up to 150,000 matches\* per second at the lowest error rate of 0.00001%(FAR)\*.

\*BioStation A2, conditions apply

## Live Fingerprint Detection

Suprema's newly developed Live Finger Detection (LFD) technology is based on analysis of dynamic and static image characteristics of the fake fingers, and how they can be distinguished from those of live fingers. With the advanced analysis algorithm to detect abnormalities in dynamic changing pattern of fingerprints images, and several static features of liveness or unnaturalness of fingers, fake fingers are clearly distinguished from live fingers. On the sensor side, Suprema's LFD technology can effectively prevent spoofing. It detects fake fingerprints with Dual Light Source Imaging technique which utilizes infra-red rays and a white light. The technique can block fake fingerprints made from various materials by comparing images obtained with white lights and infrared rays. The new OP5 sensor applied to Suprema's recently released fingerprint readers has reduced distortion and improved contrast uniformity, and features Adaptive Gain Control algorithm and a proximity sensor, which enables the sensor to detect fake fingerprints made from paper, film, glue, rubber, clay and silicon all together.

## OSDP

Selected Suprema IP access devices support OSDP, a communications protocol to encourage interoperability between access control devices. OSDP allows peripheral access control devices, including card readers and biometric readers, to interface with control panels and other security management systems. Basically, the protocol enables access control readers and panels to communicate securely. It also adds layers of security benefits through features like bidirectional communication and read/write capabilities. As a result, OSDP allows more flexible system design for installers while providing future-proof solution to end users by ensuring updating, upgrading and scaling their system as technology changes over years.

## Face Recognition Technology

Suprema's face recognition technology features a number of unique features which overcome inherent limitations in common face recognition methods. Combined with Suprema's sophisticated face algorithm, our face recognition technology features number of advanced methods including adaptive IR illumination, smart enrollment and live face detection. As a result, Suprema face terminals achieve industry leading matching speed of up to 3,000 matches per second at error rate(FAR) below 0.01%\*.

\* FaceStation 2, conditions apply

## Face Detection

Suprema IP access terminal with built-in camera provides 'Face Detection Technology' for an added sense of security. It uses a high quality megapixel camera to first detect if a face is present then captures and records the face image as an image log for auditing purpose. Proximity sensor and IR LEDs are used to ensure the image quality of the faces.

## Live Face Detection

'Live Face Detection' technology featured by Suprema face recognition terminals prevents possible fraud attempts by imitated face images. The technology is based on advanced analysis algorithm to distinguish unique characteristics in texture from human faces to various forms of counterfeit face images.

## PoE(Power over Ethernet)

Selected Suprema IP terminals support a seamless power sourcing over Ethernet cable without any degrading network performance and reach. Suprema's PoE featured devices compliance to IEEE802.3af standard, to provide users with lower installation cost, simpler cabling and lower maintenance cost.

## Distributed Access Control Topology

Suprema IP terminals and readers provide both reader and controller functionalities in one device. One device can scan ID data, manage users and control access from the edge of a system. This will not only allow for a simple localized setup, but it will also improve system stability by eliminating a single point of failure that can affect the entire system. The distributed IP access control topology also benefits users with simpler cabling and lower installation/maintenance cost.

## Centralized Access Control Topology

Suprema's CoreStation and readers provide the centralized access control system which is the Access Control Unit (ACU) based topology. Suprema's centralized system will not only offer the benefits of biometric authentication, but it will also provide the improved security and truly versatile interfaces.

## Biometric Devices



### FaceStation 2

IP Face Recognition Terminal

- 1.4GHz Quad Core CPU
- Max 3,000 match/sec
- Live Face Detection
- 4.0" color touchscreen LCD
- TCP/IP, RS485, Wi-Fi



### BioStation A2

IP Fingerprint Terminal

- 1.0GHz quad-core CPU
- Max 150,000 match/sec
- Live Fingerprint Detection
- Built-in 2MP camera for image log
- TCP/IP, RS485, Wi-Fi, PoE



### BioStation 2

Outdoor IP Fingerprint Terminal

- 1.0GHz CPU
- Max 20,000 match/sec
- IP65 dust & water protection
- Color LCD w/ keypad
- TCP/IP, RS485, Wi-Fi, PoE



### BioStation L2

IP Fingerprint Terminal

- 1.2GHz quad-core CPU
- Max 100,000 match/sec
- Live Fingerprint Detection
- Color LCD w/ keypad
- TCP/IP, RS485

## RFID Devices



### X-Station

IP RFID Terminal

- Max 200k users, 1 million logs
- 3.5" touchscreen LCD
- Built-in camera (face detection & image log)
- TCP/IP, RS485



### Xpass

IP RFID Device

- Max 40,000 users, 50,000 logs
- IP65 dust & water protection
- Sleek mullion-type design
- TCP/IP, PoE, RS485



### Xpass S2

IP RFID Device

- Max 50,000 users, 100,000 logs
- IP65 dust & water protection
- Slim gangbox-type design
- TCP/IP, RS485

## Controller



### CoreStation

Intelligent Biometric Controller

- 1.4GHz Octa-core CPU
- On-board fingerprint matching
- Max 400,000 match/sec
- Enterprise-level capacity (500,000 users)
- Scalable to 132 access points
- Secure communication (TLS protocol)

## Fingerprint Reader



### BioEntry R2

Compact Fingerprint Reader

- 1.0GHz CPU
- Dual Frequency: 125kHz + 13.56MHz
- Sleek mullion-type design
- Cost-effective fingerprint reader





## BioLite Net

Outdoor IP Fingerprint Terminal

- Max 5,000 users, 50,000 logs
- IP65 dust & water protection
- LCD w/ backlit keypad
- TCP/IP, RS485



## BioEntry W2

Outdoor IP Fingerprint Device

- 1.2GHz quad-core CPU
- Max 150,000 match/sec
- Dual frequency: 125kHz+13.56MHz (Supports all card types)
- Live Fingerprint Detection
- IP67/IK09 protection
- TCP/IP, RS485, PoE



## BioEntry P2

Compact IP Fingerprint Device

- 1.2GHz quad-core CPU
- Max 150,000 match/sec
- Dual frequency: 125kHz+13.56MHz
- Live Fingerprint Detection
- Sleek mullion-type design
- TCP/IP, RS485



## BioEntry Plus

IP Fingerprint Device

- Max 5,000 users, 50,000 logs
- Sleek mullion-type design
- TCP/IP, RS485

### Peripherals



## Secure I/O 2

Secure Door Control Module

- Encrypted communication
- Compact form factor



## Secure I/O

Secure Door Control Module

- Encrypted communication
- Expandable input/output
- Compact form factor



## DM-20

Secure Multi-door I/O Module

- Encrypted communication
- 4 x supervised inputs
- Controls up to 4 doors



## OM-120

Secure Multi Output Module

- On-board 12 x relay outputs & 2 x inputs
- Daisy chain connection up to 16 x OM-120 to support max 192 floors per elevator
- Indicating LED lights for relay & connection status
- Distinct port colors for easy wiring



## Lift I/O

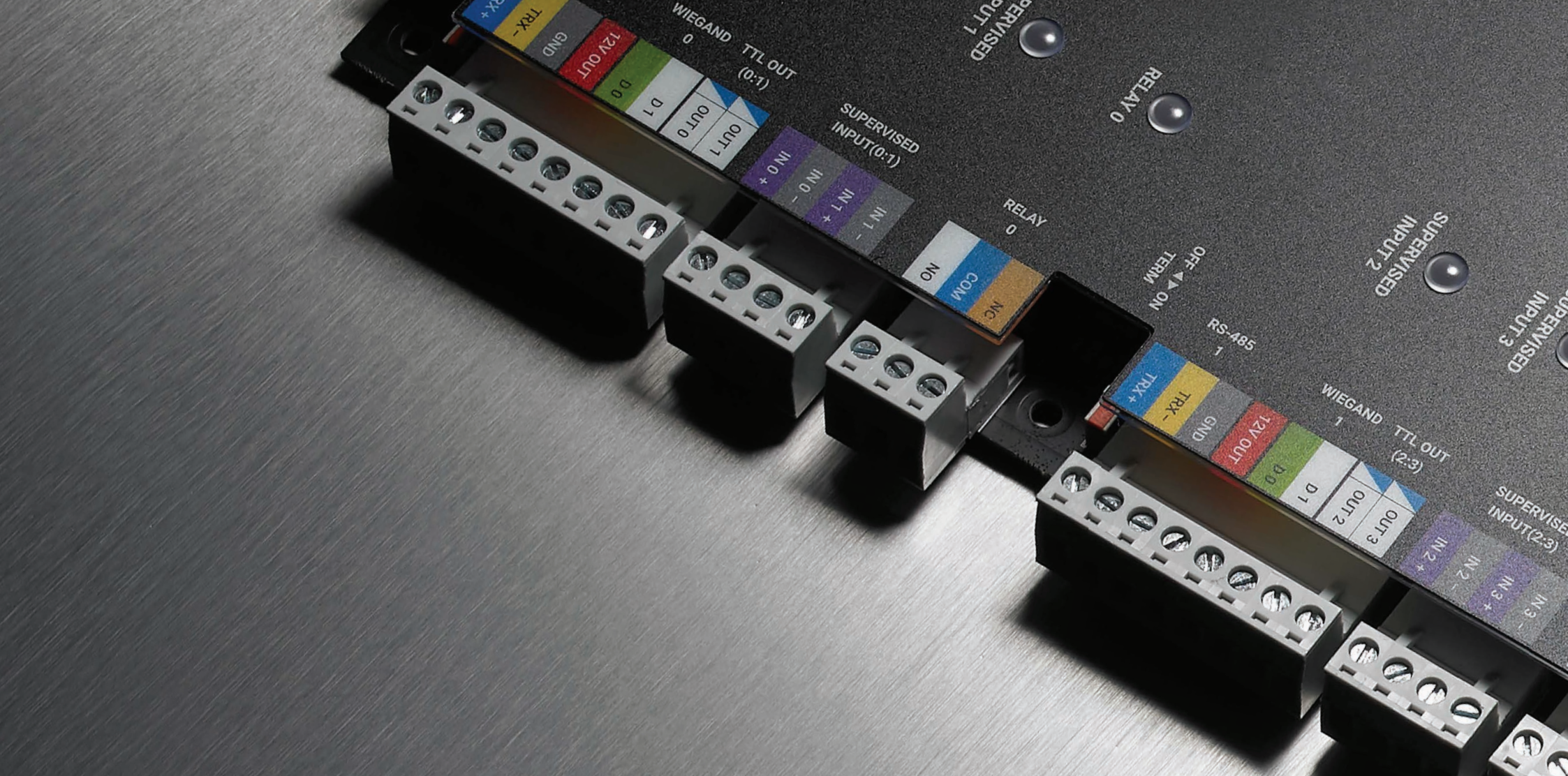
Secure Floor Access Control I/O Module

- Controls 12 floors
- Daisy chain up to 10 modules (Controls up to 120 floors)
- Easy mounting and set up
- RS-485 Secure communication

Product Specifications						
Model Name		FaceStation 2	BioStation A2	BioStation 2	BioStation L2	BioLite Net
General	Biometric	Face	Fingerprint	Fingerprint	Fingerprint	Fingerprint
	Ingress/Impact Protection	-	-	IP65	-	IP65
	RF Option	125kHz EM, HID Prox / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, iCLASS SE/SR, NFC / 2.4GHz BLE	125kHz EM, HID Prox / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, iCLASS SE/SR, NFC	125kHz EM, HID Prox / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, iCLASS SE/SR, NFC	125kHz EM / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, iCLASS SE/SR, NFC	125kHz EM / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1(CSN)
Capacity	Max User (1:1)	30,000	500,000	500,000	500,000	5,000
	Max User (1:N)	3,000	100,000	20,000	100,000	5,000
	Max Template (1:1)	900,000*	1,000,000*	1,000,000*	1,000,000*	10,000*
	Max Template (1:N)	90,000*	200,000*	40,000*	200,000*	10,000*
	Max Text Log	5,000,000	5,000,000	3,000,000	1,000,000	50,000
	Max Image Log	50,000	50,000	-	-	-
Interface	Wi-Fi	Yes(Built-in)	Yes(Built-in)	Yes(Built-in)	-	-
	TCP/IP	Yes	Yes	Yes	Yes	Yes
	RS-485	1ch Host or 1ch Slave	1ch Host or Slave	1ch Host or Slave	1ch Host or Slave	1ch Host or Slave
	RS-232	-	-	-	-	-
	Wiegand	1ch In and 1ch Out	1ch In or 1ch Out	1ch In and 1ch Out	1ch In or Out	1ch In or Out
	Input	2 Inputs	2 Inputs	2 Inputs or 2 Outputs	2 Inputs	2 Inputs
	Relay	1 Relay	1 Relay	1 Relay	1 Relay	1 Relay
	USB	Host	Host	Host	-	-
Hardware	CPU	1.4 GHz Quad Core	1GHz Quad Core	1.0GHz	1.2GHz Quad Core	533MHz DSP
	Memory	8GB Flash + 1GB RAM	1GB RAM + 8GB Flash	128MB RAM + 8GB Flash	256MB RAM + 2GB Flash	16MB RAM + 8GB Flash
	LCD	4.0" Color Touch	5.0" Color Touch	2.8" Color LCD	2" Color	128x64 Monochrome LCD
	LED Indicator	-	Multi-Color	Multi-Color	Multi-Color	Multi-Color
	Sound	24 bit / Voice DSP (echo cancellation)	24 bit / Voice DSP (echo cancellation)	16-bit Hi-Fi	16-bit Hi-Fi	Multi-tone Buzzer
	Operating Temp.	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C
	Tamper	Yes	Yes	Yes	Yes	Yes
	Power	24VDC	12VDC	12VDC	12VDC	12VDC
	PoE	-	Yes	Yes	-	-
	Dimensions (W x H x D mm)	141 x 164 x 125	155 x 155 x 40	142 x 145 x 45	71 x 201 x 44	60 x 185 x 40
Certificates	CE, FCC, KC, RoHS, REACH, WEEE, BT SIG	CE, FCC, KC, RoHS, REACH, WEEE	CE, FCC, KC, RoHS, REACH, WEEE	CE, FCC, KC, RoHS, REACH, WEEE	CE, FCC, KC, RoHS	
Compatibility	BioStar 1	-	Yes	Yes	Yes	Yes
	BioStar 2	Yes	Yes	Yes	Yes	Yes

					
BioEntry W2	BioEntry P2	BioEntry Plus	X-Station	Xpass	Xpass S2
Fingerprint	Fingerprint	Fingerprint	-	-	-
IP67, IK09	-	-	-	IP65	IP65
125kHz EM, HID Prox / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, iCLASS SE/SR, NFC	125kHz EM, HID Prox / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, iCLASS SE/SR, NFC	125kHz EM, HID Prox / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1(CSN), FeliCa, iCLASS SR	125kHz EM / 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1(CSN)	125kHz EM, HID Prox / 13.56MHz MIFARE, DESFire/EV1(CSN)	13.56MHz MIFARE, MIFARE Plus, DESFire/EV1(CSN), FeliCa
500,000	10,000	5,000	200,000	40,000	50,000
100,000	10,000	5,000	200,000	40,000	50,000
1,000,000*	20,000*	10,000*	-	-	-
200,000*	20,000*	10,000*	-	-	-
1,000,000	1,000,000	50,000	1,000,000	50,000	100,000
-	-	-	5,000	-	-
-	-	-	-	-	-
Yes	Yes	Yes	Yes	Yes	Yes
1ch Host or Slave	1ch Host or Slave	1ch Host or Slave	1ch Host and Slave	1ch Host or Slave	1ch Host or Slave
-	-	-	Yes	Yes	Yes
1ch In or Out	1ch In or Out	1ch In or Out	1ch In or Out	1ch In or Out	1ch In or Out
2 Inputs	2 Inputs	2 Inputs	2 Inputs	2 Inputs	2 Inputs
1 Relay	1 Relay	1 Relay	1 Relay	1 Relay	1 Relay
-	-	-	-	-	-
1.2GHz Quad Core	1.0GHz	533MHz DSP	667MHz RISC	533MHz DSP	533MHz DSP
256MB RAM + 2GB Flash	64MB RAM + 8GB Flash	8MB RAM + 8MB Flash	128MB RAM + 1GB Flash	16MB RAM + 8MB Flash	16MB RAM + 16MB Flash
-	-	-	3.5" Color Touch	-	-
Multi-Color	Multi-Color	Multi-Color	-	Multi-Color	Multi-Color
Multi-tone Buzzer	Multi-tone Buzzer	Multi-tone Buzzer	16-bit Hi-Fi	Multi-tone Buzzer	Multi-tone Buzzer
-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-35°C ~ 65°C
Yes	Yes	Yes	Yes	Yes	Yes
12VDC	12VDC	12VDC	12VDC	12VDC	12VDC
Yes	-	-	-	Yes	-
50 x 172 x 43.5	50 x 164 x 37.5	50 x 160 x 37	79 x 135 x 21	45 x 130 x 27	80 x 120 x 11.4
CE, FCC, KC, RoHS, REACH, WEEE, UL 294	CE, FCC, FC, RoHS, REACH, WEEE	CE, FCC, KC, RoHS	CE, FCC, KC, RoHS	CE, FCC, KC, RoHS	CE, FCC, KC, RoHS
Yes	-	Yes	Yes	Yes	Yes
Yes	Yes	Yes	-	Yes	Yes

\* Two templates per finger



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