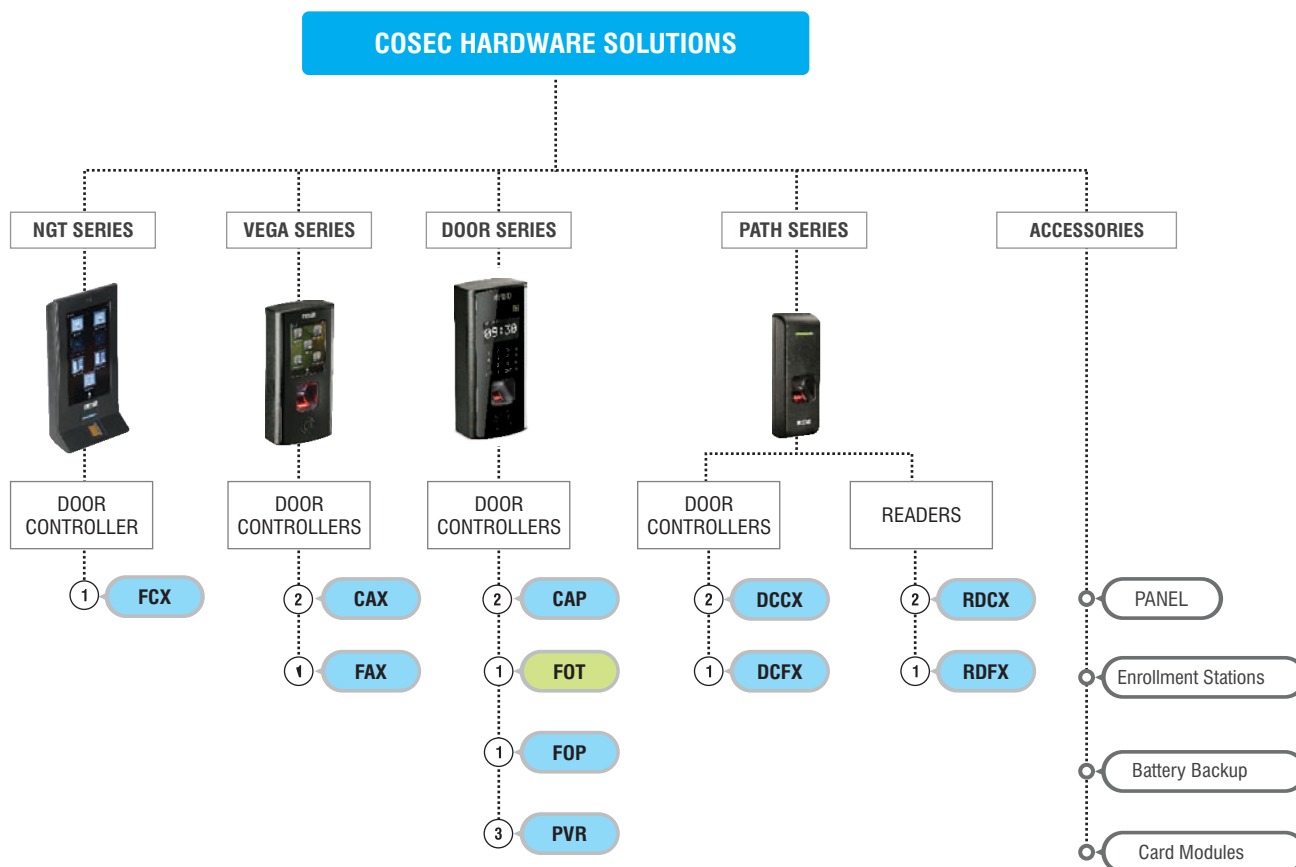




COSEC HARDWARE

Matrix COSEC hardware solutions comprise of multiple families of door controllers, readers and accessories. These products have won international awards for their aesthetics and engineering. They are specifically built for demanding enterprise applications using cutting-edge technologies and high-performance components for reliable performance for years



Only Time-Attendance

Access Control and Time-Attendance

① Fingerprint and RFID Support

② Only RFID Support

③ Palm Vein Support

Types of Card: X - E, M, I, P Card Support, E - EM Prox, M - Mifare Smart, I - HID iCLASS, P - HID Prox

COSEC DOOR CONTROLLERS

COSEC door controllers are the front-end terminals people use during entry and exit. Door Controllers read biometric credentials (fingerprint and palm vein) or RF cards to log each entry/exit and control door lock. Door controllers are connected with the COSEC CENTRA server or site controller. They store all user access information and send entry-exit detail to COSEC CENTRA server in real time. The COSEC door controllers are offered in four series as below.



COSEC NGT

Matrix COSEC NGT FCX is a futuristic door-controller to meet the functional and aesthetic needs of any modern organization for access control and time-attendance applications. It's touch-sense large display facilitates icon based graphical user interface for time-attendance functions for easy and intuitive user interaction.

- Capacitive Fingerprint Reader
- Smart Card and Proximity Cards
- 7" LCD with Touch-Sense
- 3.1MP Camera
- Voice Guidance
- Ethernet, Wi-Fi and 3G/4G/LTE
- Power over Ethernet (PoE)
- 100,000 Events Storage





COSEC VEGA

Matrix COSEC VEGA door-controllers are premium devices engineered with careful blend of aesthetics, size, connectivity, reliability and ease-of-use. VEGA series are perfect fit for access control and time-attendance solution for any organization.

- Optical Fingerprint Reader
- Smartcard, NFC and Proximity Cards
- 3.5" Touch-Sense Color LCD
- IP65 for Outdoor Applications
- Power over Ethernet (PoE)
- Ethernet, Wi-Fi and 3G/4G/LTE
- 500,000 Events Log

COSEC PATH

Matrix COSEC PATH Series door controllers are specifically designed for access control applications. These compact, robust and cost-effective controllers blend in any modern building design and assure reliable and long-term performance as sentries at the building gates and doors.



- Optical Fingerprint Reader
- Smart Card and Proximity Card
- NFC Tag
- IP65
- Power over Ethernet (PoE)
- Power to Lock over PoE
- Elegant and Compact
- 9,600 Fingerprint Storage
- 50,000 Events Log
- Matching Exit Readers



COSEC DOOR

Winner of the coveted iF award for its superior design, Matrix COSEC DOOR series controllers are versatile devices designed for reliability, modularity and performance. These workhorses come in variants specifically targeted at time-attendance and access control applications.

- Palm Vein or Fingerprint Readers
- Smart Card and Proximity Cards
- 128*64 Dot Matrix Display
- Touch-Sense Keypad
- USB Port
- Ethernet, Wi-Fi and 3G/4G/LTE
- 500,000 Events Storage



COSEC READERS

Matrix COSEC Readers can be connected with any COSEC door controller through wiegand or RS-232 interface.



- Works with any COSEC Door Controller
- Fingerprint and Card Reader
- Proximity or Smart Card
- Power Supply from Door Controller
- IP65
- Tamper Detection

COSEC ACCESSORIES

Matrix offers different COSEC accessories for enhancing features and performance of the COSEC solution. This includes PANEL, card modules, enrollment stations, battery backup etc.



COSEC PANEL

COSEC PANEL manages multiple controllers and acts as a bridge between the controllers and the central COSEC CENTRA server. They are responsible for synchronizing all the door controllers and implementing advanced access control features.

- Ethernet and RS-485
- USB Port for Wi-Fi, 3G/4G and Data Transfer
- Auxiliary Input and Output Port
- Advance Access Control Features
- 500,000 Events Storage
- Controls 75 Door Controllers
- 25,000 User Templates



ENROLL CARD
Card Enrollment



ENROLL FINGER
Fingerprint Enrollment

COSEC ENROLL

COSEC ENROLL is a desktop based enrollment station to enroll users with their fingerprint and card from a single place. COSEC ENROLL along with enrollment software allows the HR department to enroll new employees quickly and easily

- Finger and Card Enrollment
- Fingerprint Verification
- Comprehensive Software
- Finger Image Quality Check during Enrollment



COSEC CPM

COSEC CPMs are pluggable card personality reader modules inserted in the COSEC DOOR and NGT series controller. Four different card reader modules are available to support both proximity and smart card.

PRODUCT	TECHNOLOGY	SUPPORTED DOOR CONTROLLERS
COSEC CPM EM PROX	Proximity	COSEC DOOR Series and NGT Series
COSEC CPM HID PROX	Proximity	COSEC DOOR Series and NGT Series
COSEC CPM MIFARE SMART	Smart Card	COSEC DOOR Series and NGT Series
COSEC CPM HID iCLASS	Smart Card	COSEC DOOR Series and NGT Series
COSEC VEGA CPM EM PROX	Proximity	COSEC VEGA Series
COSEC VEGA CPM HID PROX*	Proximity	COSEC VEGA Series
COSEC VEGA CPM MIFARE SMART	Smart Card	COSEC VEGA Series
COSEC VEGA CPM HID iCLASS*	Smart Card	COSEC VEGA Series

* Check for Availability

Cards Support

- Low Frequency (125KHz): EM, HID Prox
- High Frequency (13.56MHz): MIFARE 1k, MIFARE 4k, HID iCLASS 2k/2, HID iCLASS 16k/2, HID iCLASS 16k/16

COSEC PSBB

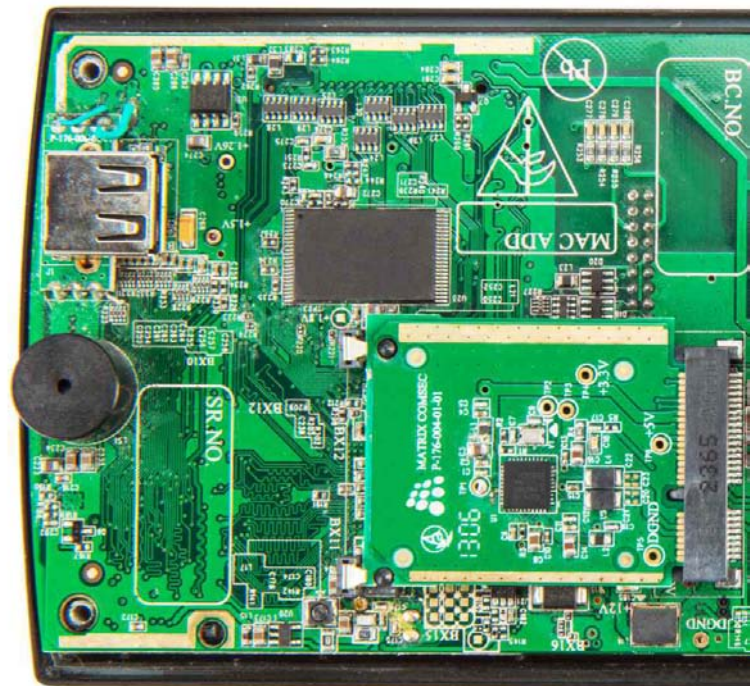
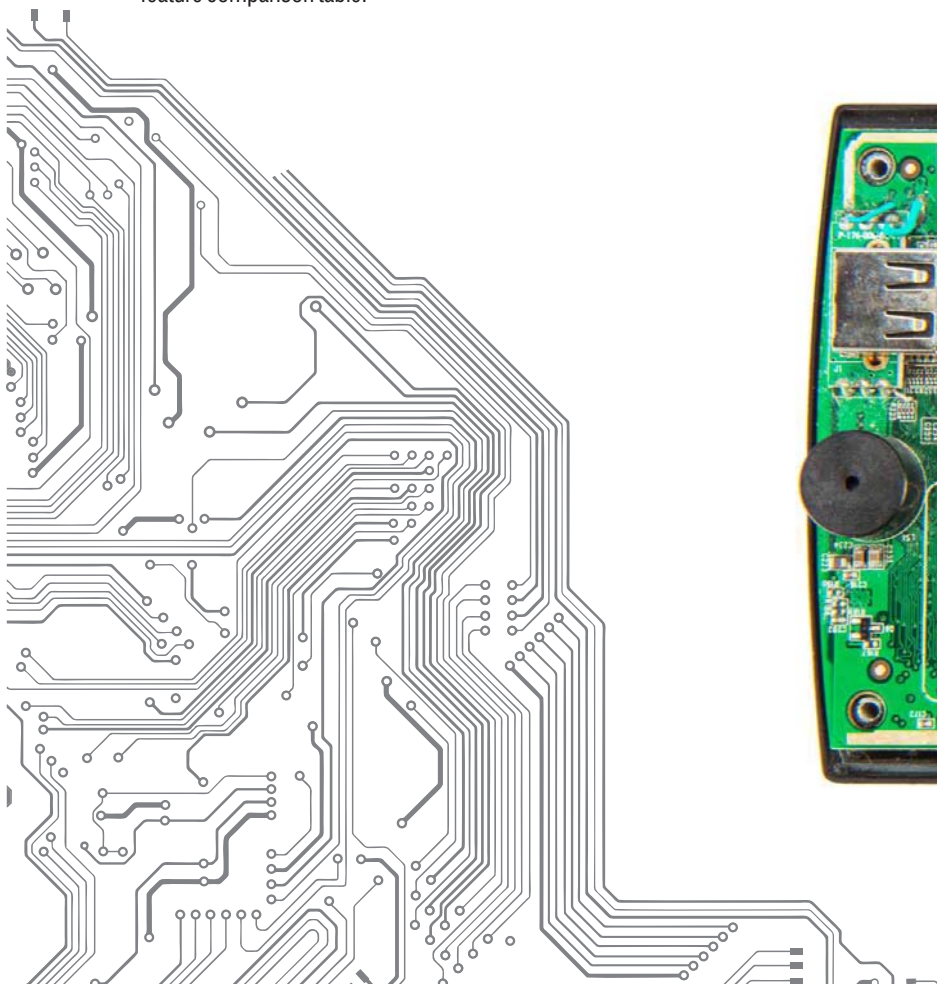
COSEC power supply battery backup is used to supply power to the door controller. It is available in two different variants.

- Supply Power to Door Controller when Mains is not Available
- Useful for Mobile Application
- Supply to Door Lock and Exit Readers

COSEC DOOR CONTROLLER INTERFACE DIAGRAM



* Above diagram shows general connectivity of COSEC door controllers. For specific interface option in any door controller, please refer device feature comparison table.



COSEC DOOR CONTROLLERS SELECTION GUIDE

SERIES	NGT	VEGA		PATH		DOOR			
MODEL	FCX	CAX	FAX	DCCX	DCFX	CAP	FOT	FOP	PVR
Fingerprint Sensor(Optical)			•		•		•	•	
Fingerprint Sensor(Capacitive)	•								
Palm Vein Sensor									•
RFID Card Reader	•	•	•	•	•	•	•	•	•
Touch Screen LCD (7")	•								
Touch Screen LCD (3.5")		•	•						
128*64 Dot Matrix Display						•	•	•	•
Camera	•								
Touch Sense Keys						•	•	•	•
Ethernet	•	•	•	•	•	•	•	•	•
RS-485	•			•	•	•		•	
USB Port for Data Transfer	•	•	•			•	•	•	•
USB Port for Communication	•	•	•						•
Built-In Wi-Fi	•	•	•						•
Power over Ethernet (POE)	•	•	•	•	•				
Event Storage (50,000)				•	•	•	•	•	
Event Storage (1,00,000)	•								•
Event Storage (5,00,000)		•	•						
External Reader	•	•	•	•	•	•		•	•
Exit Switch	•	•	•	•	•	•		•	•
Door Lock	•	•	•	•	•	•		•	•
Auxiliary Input Port	•	•	•			•		•	•
Auxiliary Output Port	•	•	•			•		•	•
Tamper Detection	•	•	•	•	•	•	•	•	•
Buzzer	•	•	•	•	•	•	•	•	•
Voice Guidance	•								
LED Indication	•			•	•	•	•	•	•
IP65		•	•	•	•				

X-E, M, I, P Card Support E- EM Prox M-Mifare Smart I- HID iCLASS P- HID Prox

• Built-In • COSEC CPM is Required

KEY FEATURES

Wired and Wireless Connectivity

Featuring Ethernet, Wi-Fi and 3G/4G connectivity, COSEC door controllers offer extra flexibility in designing a security solution while reducing installation and maintenance costs. Compared to conventional access control system, wireless and IP based connectivity provides lower cost per door using existing network infrastructure and improve reliability and performance.

Auxiliary Input and Output Ports

Matrix COSEC door controllers have multi functional supervised auxiliary input and output ports to control various applications. Input devices such as motion detectors, fire alarm panels, etc. and external devices like video recorders, siren, etc. can be connected on these ports. Input and output ports can be linked to enable applications like door unlocking when fire is detected, capture user photo during entries or exits of specified users.

Buzzers and LEDs

Alarms play a key role for the organization safety and security. Various alarms are predefined in the system and based on specific conditions, alarms are generated on door controllers and panels to

indicate an important event, breach of access policy or unauthorized access. Both audio and visual indications are provided by means of a buzzer and LEDs. These alarms can be monitored, acknowledged, cleared and controlled in real-time.

External Reader Interfaces

COSEC door controllers have a built-in exit reader port to connect either fingerprint or card reader using RS-232 or Wiegand interface. Power to this reader is supplied from the door controller directly to eliminate the need for separate power point at the installation site.

Request to Exit (REX) Switch

In many applications only door controller is used without exit reader. COSEC has a built-in exit switch port to connect push button type switch to unlock the door.

USB for Advanced Utility

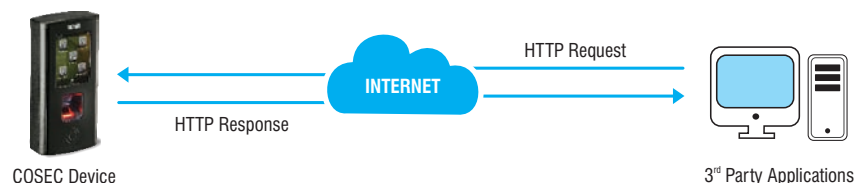
For remote location installations or where wired internet connectivity is not available, USB port on door controller and PANEL is used for easy data transfer, wireless (Wi-Fi and 3G/4G) connectivity and firmware upgrade.

DEVICE API

Matrix COSEC device API allows other third party application software to communicate directly with the COSEC devices using HTTP methods. These Device APIs perform functions such as device configuration, user configuration, enrollment, transfer of commands and events etc.

Communication Using Device API

COSEC Device API enables a client application to access COSEC device directly without need of COSEC monitor or COSEC CENTRA server. Using APIs, third party software sends a simple HTTP request and device execute these requests.



Supported Devices

Device APIs are supported on below COSEC door controllers.

- COSEC DOOR (Above V2 Doors)
- COSEC DOOR PVR
- COSEC NGT FCX
- COSEC VEGA
- COSEC PATH

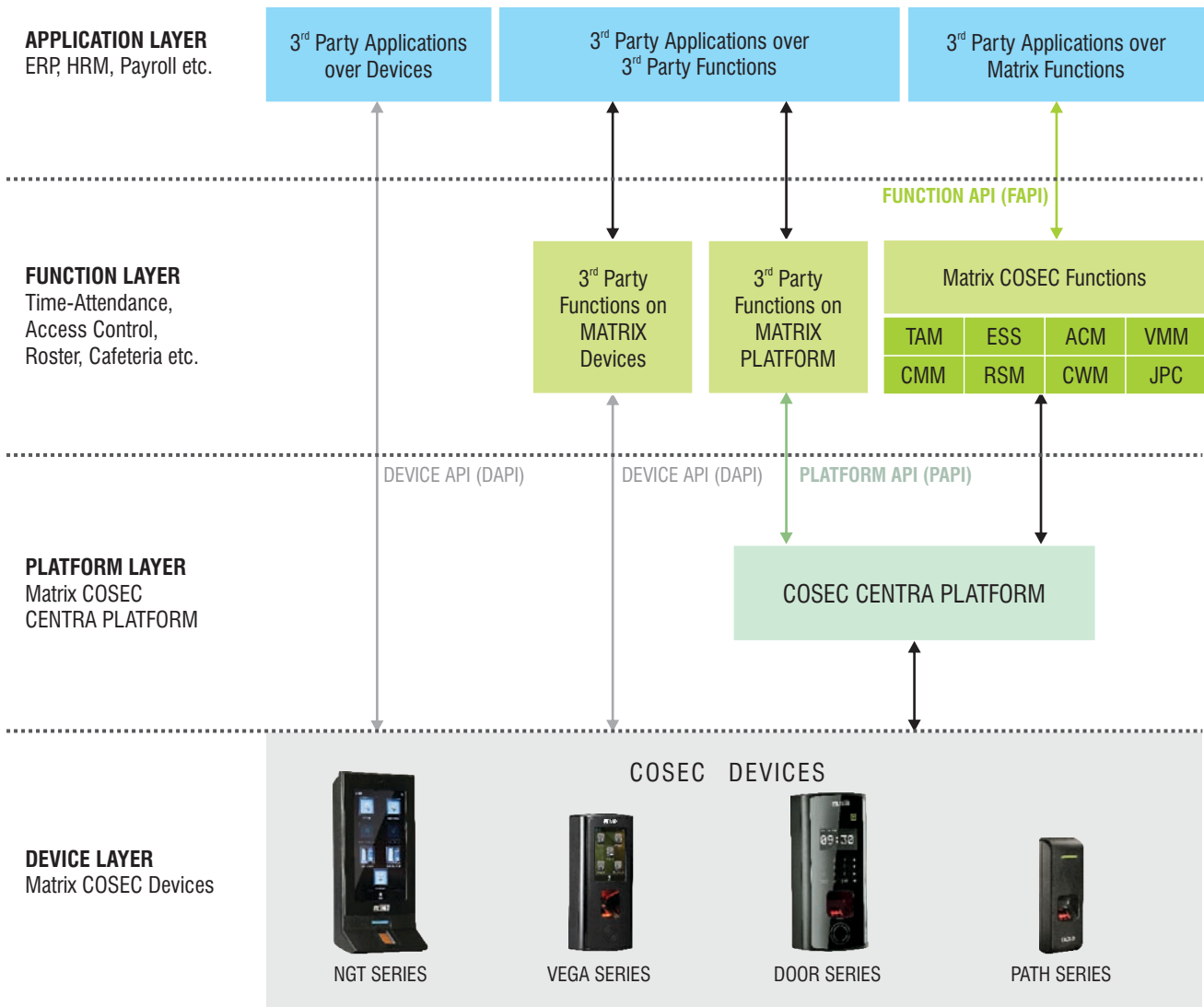
Device APIs

COSEC devices support below mentioned functions to communicate with the third party software application.

- User Configuration
- Enrollment Configuration
- Credential Management Configuration
- Basic Device Configuration
- Function Key Configuration
- Reader Configuration
- Access Setting Configuration
- Alarm Configuration
- Date and Time Configuration
- Door Features Configuration
- Event Configuration
- Device Control Configuration

MATRIX COSEC INTEGRATION

Matrix COSEC offers flexibility to interface with any third-party applications at three different levels as shown in the diagram.



Device Level Integration

Matrix COSEC devices come ready with Device API for 3rd party application developers to develop their applications using Matrix COSEC devices. Matrix COSEC Device APIs (DAPI) allows other third party applications to communicate directly with the COSEC devices without need for COSEC CENTRA PLATFORM.

Platform Level Integration

Many application developers need application ready APIs. They expect the hardware vendors to manage device configuration, communication, enrollment and all such lower-level tasks. This saves them from the complexity of physical interfaces, network management, communication, device configuration, template distribution, etc. For such developers, Matrix COSEC CENTRA offers PLATFORM APIs (PAPI). Matrix COSEC CENTRA PLATFORM

manages all the lower level tasks shielding application developers from the tedious lower-level software engineering and offers them application-ready interfaces for simple and quick programming. Using PAPI, they can build their applications like time-attendance, access control, visitor management, cafeteria management, contract labor management and roster management on top of COSEC CENTRA PLATFORM.

Function API

This is the highest level of interface Matrix COSEC offers for application to application integration. Using Function APIs (FAPI), Matrix COSEC applications like Time-Attendance can be integrated with other 3rd party applications like payroll, ERP, HRMS and CRM. Matrix COSEC is integrated with many widely popular applications like SAP, Oracle, Microsoft Dynamics NAV/AX, Tally and others.

TECHNICAL SPECIFICATIONS

COSEC Door Controllers

SERIES	NGT	VEGA		PATH	
MODEL	FCX	CAX	FAX	DCCX	DCFX
CPU	400 MHz ARM9	1 GHz Cortex A8		32-bit Micro Controller	
Input Power	12V DC @ 2A				
Dimensions (W x H x D)	100mm x 220mm x 55mm (3.9" x 8.7" x 2.2")	90mm x 180mm x 37mm (3.54" x 7.08" x 1.45")		50mm x 136mm x 33mm (1.96" x 5.35" x 1.29")	50mm x 160mm x 42mm (1.96" x 6.29" x 1.65")
Weight	0.970kg (2.13Lbs)	0.4kg (1.88Lbs)		0.280kg (0.62Lbs)	
Environment	-10°C to +50°C (14°F to 122°F) and 5% to 95% RH Non-Condensing				
Certificate		CE, FCC, RoHS		CE, FCC, RoHS	

SERIES	DOOR			
MODEL	FOT	CAP	FOP	PVR
CPU	32-bit Micro Controller			1GHz ARM Cortex A8
Input Power	12V DC @ 2A			
Dimensions (W x H x D)	100 x 220 x 55mm (3.9" x 8.7 x 2.2")			
Weight	0.49kg (1.07Lbs)			
Environment	-10°C to +50°C (14°F to 122°F) and 5% to 95% RH Non-Condensing			
Certificate	CE, FCC, RoHS			

COSEC Readers

FEATURE	PATH RDCX*	PATH RDFX*
Reader Type	Card	Fingerprint and Card
Interface	Wiegand or RS232	Wiegand or RS232
Tamper Detection	Yes	Yes
LED	1 (Tri-Color)	1 (Tri-Color)
Buzzer	Yes	Yes
IP65	Yes	Yes
Dimensions (W x H x D)	50mm x 136mm x 33mm (1.96" x 5.35" x 1.29")	50mm x 160mm x 42mm (1.96" x 6.29" x 1.65")
Weight	0.150Kg (0.33Lbs)	0.225Kg (0.49Lbs)
Environment	-10°C to +50°C (14°F to 122°F) and 5% to 95% RH Non-Condensing	

X-E, M, I, P Card Support E- EM Prox M-Mifare Smart I- HID iCLASS P- HID Prox

Fingerprint Sensor

FEATURE	OPTICAL	CAPACITIVE
Sensor Technology	Optical	Capacitive
Waterproof	Yes	No
Sensing Area	15.9mm x 17.9mm (0.62" x 0.70")	12.8mm x 18.0mm (0.50" x 0.70")
Image Size in Pixels	288 x 288	256 x 360
Image Resolution in DPI	500	508
Identification Time	< 1 Sec	<650 msec
Verification Time	< 1 Sec	<500 msec
Equal Error Rate (ERR)	< 0.1%	<0.1%

COSEC PANEL

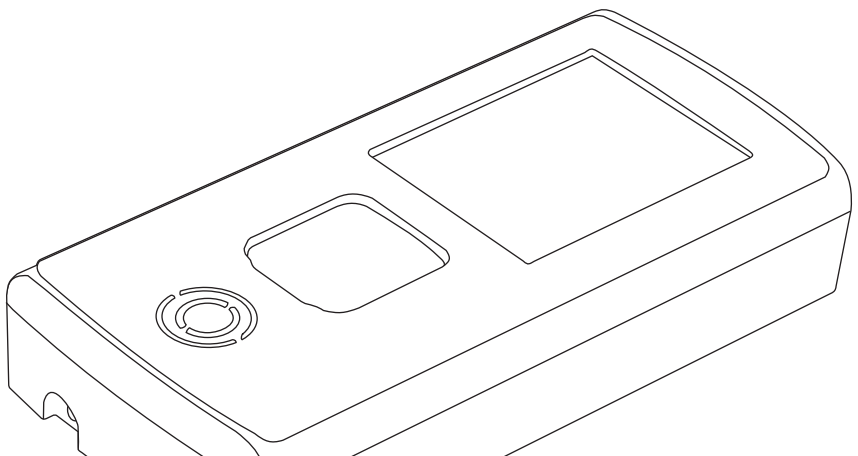
Maximum Door Controllers	75
Maximum Users	25,000
Maximum Door Controllers on Ethernet	75
Maximum Door Controllers on RS-485	32
Communication	Ethernet, RS-485 and 3G/4G/LTE
Events (Offline Storage)	500,000
LED Indication	Power, Status and Alarm
Buzzer	Yes
USB Port	1 (for Data Transfer and 3G/4G)
Auxiliary Input Port	Yes
Auxiliary Output Port	Yes

WHEN COSEC PANEL IS REQUIRED?

COSEC PANEL synchronizes multiple door controllers and provides a single interface for the server. COSEC PANEL is required if one or more of the following conditions exist:

1. Number of users on one door controller is more than its capacity (PANEL can Support 25,000 Users)
2. Greater than 50,000 local transactions (PANEL can Support 500,000 transactions)
3. When following additional security features are needed:

- Access Groups
- Access Levels
- Access Zones
- Access Route
- Dead-Man Zone
- Do Not Disturb
- Home Zone
- Input-Output Ports Link
- Man Trap
- Soft Override
- Time Zone based Access
- Visit Zone



ORDERING INFORMATION

DOOR CONTROLLERS	
COSEC PATH DCFX*	Fingerprint and in-Built Card based Door Controller with PoE and IP65 with Fixed Card Type
COSEC DOOR FOT	Fingerprint and Card based Time-Attendance Terminal with LCD, Keypad and USB
COSEC DOOR FOP	Fingerprint and Card based Door Controller with LCD, Keypad and USB
COSEC VEGA FAX	Fingerprint and Card based Door Controller with Touchscreen, IP65, Wi-Fi and 3G/4G Connectivity Option
COSEC NGT FCX	Fingerprint and Card based Door Controller with 7" Touchscreen, Camera, PoE, Wi-Fi and 3G/4G Connectivity Option
COSEC DOOR PVR	Palm Vein and Card based Door Controller with Wi-Fi, LCD, Keypad and 3G/4G Connectivity Option
COSEC PATH DCCX*	In-Built Card based Door Controller with PoE and IP65 with Fixed Card Type
COSEC DOOR CAP	Card based Door Controller with LCD, Keypad and USB
COSEC VEGA CAX	Card based Door Controller with Touchscreen, IP65, Wi-Fi and 3G/4G Connectivity Option

READERS	
COSEC PATH RDFX*	Fingerprint and Card based Exit Reader with IP65
COSEC PATH RDCX*	Card based Exit Reader with IP65

ACCESSORIES	
COSEC PANEL LITE	Control Panel to Support Multiple Door Controllers for Advance Features
COSEC ENROLL CARD	Desktop based Card Enrollment Station
COSEC ENROLL FINGER	USB based Fingerprint Enrollment Station
COSEC PATH BBU	Power Supply Battery Backup for PATH Series Door Controllers
COSEC PSBB12V	Power Supply Battery Backup for Door Controllers
COSEC CPM EM PROX	EM Proximity Card Personality Reader Module
COSEC CPM HID PROX	HID Proximity Card Personality Reader Module
COSEC CPM MIFARE SMART	Mifare Smart Card Personality Reader Module
COSEC CPM HID iCLASS	HID iCLASS Smart Card Personality Reader Module
COSEC VEGA CPM EM PROX	EM Proximity Card Personality Reader Module for VEGA Series Door Controller
COSEC VEGA CPM HID PROX#	HID Proximity Card Personality Reader Module for VEGA Series Door Controller
COSEC VEGA CPM MIFARE SMART	Mifare Smart Card Personality Reader Module for VEGA Series Door Controller
COSEC VEGA CPM HID iCLASS#	HID iCLASS Smart Card Personality Reader Module for VEGA Series Door Controller

Check for Availability

X-E, M, I, P Card Support E- EM Prox M-Mifare Smart I- HID iCLASS P- HID Prox



ABOUT MATRIX

Established in 1991, Matrix is a leader in Telecom and Security solutions for modern businesses and enterprises. An innovative, technology driven and customer focused organization; Matrix is committed to keep pace with the revolutions in the telecom and security industries. With around 30% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products like IP-PBX, Universal Gateways, VoIP Gateways and Terminals, GSM Gateways, Access Control and Time-Attendance Systems, Video Surveillance System and Fire Alarm Systems. These solutions are feature-rich, reliable and conform to the international standards. Having global foot-prints in Asia, Europe, North America, South America and Africa through an extensive network of more than 500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of customers representing the entire spectrum of industries. Matrix has won many international awards for its innovative products.

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Due to continuous technology upgradations, product specifications are subject to change without notice.