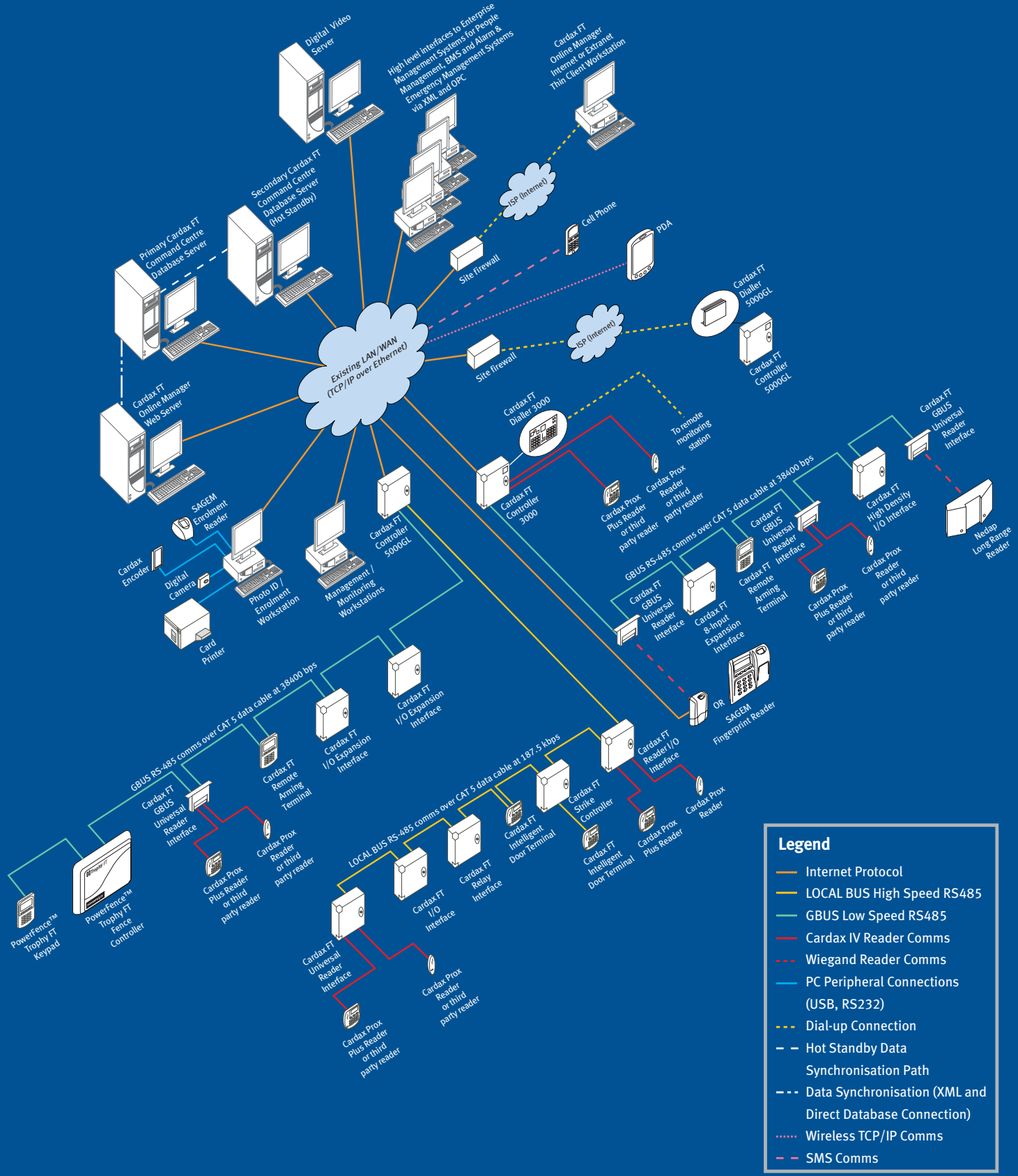
Cardax FT
System Catalogue

cardax

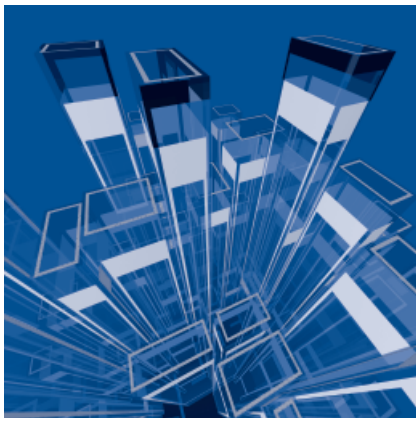
From the GALLAGHER suite of security systems

Cardax FT System



Introducing Cardax FT

Cardax FT is a comprehensive, scalable Microsoft® Windows® based security system managing physical access control and intruder alarms.



Cardax FT meets the needs of small single sites, through to large multinational enterprise-wide installations. The system has the scope to meet whatever your security requirements may be. It is an intruder alarm system, an access control system, a central hub for integrated site security, and a management information system.

Cardax FT resides on an organisation's IT network and stores information about cardholders, the site, and system activity. The system collects real time data and can be integrated with other systems whether for security management (for example, DVR and perimeter security systems), or business management (for example, facilities management and HR systems such as SAP® and PeopleSoft®.)

The system design for Cardax FT is both straightforward and flexible, to enable it to meet the specification of each individual site.

Cardax FT Command Centre is the central management software for the system.

Cardax FT Online Manager, a user-friendly web interface for cardholder and alarms management, enables the system to be utilised by both security and line management staff 24/7.

Supporting peer-to-peer communications over TCP/IP, intelligent Cardax FT Controllers enable efficient and effective distributed system configuration. They are designed for making security decisions in the field, and operate independently of the Command Centre.

The Controllers are supported with an extensive range of devices for connecting system inputs and outputs, alarm diallers, alarm keypads, readers, and transponders.

This system catalogue aims to give you an overview of the Cardax FT product range. Product specific datasheets are available for more detailed information on functionality and technical specifications. These can be found at www.cardax.com. Alternatively, email cdxsales@cardax.com or contact your Cardax certified channel partner.

Cardax FT is designed, developed and manufactured by Gallagher Security Management Systems, a division of New Zealand based Gallagher Group.

Cardax FT Core Security Integration Platform

Cardax FT technology has been developed using industry standard software development tools to deliver the latest platform for integrated security.

Key features of the Cardax FT technology platform include:
> Microsoft® Windows® Operating Systems
> Microsoft® SQL Database options
> OPC enabled for sharing event information
> Encrypted communications
> Internet compatible
> Upgradable and scalable solutions.

Cardax FT Command Centre links to Cardax FT Controllers over Ethernet using TCP/IP, a world standard network and internet transmission protocol. This protocol ensures the system communications are internet compatible.

Encryption

One of the attributes that sets Cardax FT apart is the high level of security inherent in Cardax FT system communications. The system employs 40-bit Secure Socket Layer (SSL) encryption to encrypt data communicated over the network. This includes communications between Cardax FT Command Centre server and Cardax FT Controllers, and peer-to-peer Controller communications. High security system options offering higher levels of encryption are available (see page 4).

System Integration

Cardax FT provides the platform for a complete security solution through system integration capabilities.

Integration with Imaging Systems

Event information in the Cardax FT system is complemented with images from either CCTV or DVR systems. The Cardax FT system provides a visual and auditable record of system events which can be relied upon to provide evidence if needed.
> Cardax FT has been integrated with many DVR systems. Contact us for the latest information.
> Cardax FT Challenge provides the ability to double-check the visual identity of cardholders passing through a nominated door using visual comparison of a cardholder image against a live image from an imaging system.

Integration with Biometric Systems

Integration between the Cardax FT system and SAGEM fingerprint readers provides a full integrated biometric access control solution.

business partner
hp invent

Microsoft CERTIFIED Partner

Cardax FT For Intelligent Business Efficiencies

Integration delivers cost and time efficiencies, improves data integrity and can help you meet your occupational safety and health obligations.

Integration with the PowerFence™ Perimeter Security Systems

The PowerFence™ Trophy FT perimeter system, also manufactured by Gallagher Security Management Systems, is a zoned, high voltage electric fence system providing a safe, yet strong deterrent to any would-be intruder. The system is very successful in preventing intruder incidents without generating false alarms.

The PowerFence™ Trophy FT system is a fully integrated option on the Cardax FT system enabling full configuration, control and monitoring of the PowerFence™ system through Cardax FT Command Centre. Coupled with integrated DVR, a site has a powerful security platform. Security is managed through a single user interface complemented with a comprehensive single audit trail.

For more information refer to the PowerFence™ Trophy FT System Catalogue or visit www.powerfence.com

Flexible High Level Integration Options

Using the data available via the OPC (Alarms and Events) interface and the XML interface, the ability to integrate Cardax FT with other business systems delivers efficiencies and cost savings.

- Cardholder Import/Export enables cardholder data to be shared with external sources such as PeopleSoft® and SAP® HR systems enabling single source of cardholder data entry and maintenance.
- Schedule Import provides the ability to integrate third party scheduling systems such as Syllabus Plus™ with Cardax FT. This enables changes in the external system to change the access control schedules in Cardax FT automatically.
- Through the OPC Interface, Cardax FT can be used in conjunction with a Personal Digital Assistant (PDA) or mobile phone making it ideal for mobile security monitoring.
- Cardax FT can be integrated with Building Management Systems to achieve efficiencies in, for example, lighting and air-conditioning.
- The Cardax FT Controller API for alarms and events enables live event data from third party systems to be bi-directionally interfaced to Cardax FT. This ensures continuity of integrated functions such as DVR should the Command Centre server be unavailable. Refer to the Cardax FT API datasheet for more information.

Gallagher Security Management Systems has a continuing R&D program for system development. Please contact us for further information on interface options.

Cardax FT System Options

Maximise the value from your Cardax FT system: enhance it by electing Cardax FT XtraSec for increased data protection and maintain it through Software Maintenance Agreements.

Cardax FT XtraSec

If your organisation delivers critical infrastructure vital to national security, participates in sensitive markets, or is in high security government sectors, you will appreciate the need for tight security.

Cardax FT XtraSec provides the control system for high level electronic physical security. Residing on the Cardax FT technology platform, Cardax FT XtraSec further protects against a competent technical attack or compromise of system communications from internal or external would-be intruders. It achieves superior system security through very high levels of system data encryption and monitored communications, using a minimum encryption key level of 128 bits.

For more information, please refer to the Cardax FT XtraSec System Catalogue available from www.cardax.com or contact Gallagher Security Management Systems.

Software Maintenance Agreements

The Cardax FT Software Maintenance Agreements programme provides a cost-effective means of obtaining future upgrades and ensures sites keep pace with developments. It enables sites to:

- Keep pace with technology and Microsoft® operating platform releases
- Benefit from releases that will enhance system performance
- Receive new core Cardax FT system functionality
- Elect new optional features and the support for new hardware devices.

The first year of a Cardax FT Software Maintenance Agreement is included with the purchase of Cardax FT Command Centre. The only prerequisite is that the Software Maintenance Agreement documentation is completed within 60 days of the date the site license was created. More information about Software Maintenance Agreements is available from Gallagher Security Management Systems or your Cardax channel partner.

Migration Option for Cardax Commander Legacy Systems

Gallagher Security Management Systems values long term customer relationships. Cardax FT includes options to migrate existing Cardax sites to the Cardax FT platform. Backwards compatibility with Cardax Commander technology is achieved through the Cardax FT Command Centre. Existing Cardax readers can also be integrated into the Cardax FT system using Cardax FT hardware.

Cardax FT Command Centre

Cardax FT Command Centre is the central management tool for the Cardax FT system. The software is powerful, catering for a versatile feature set.

Cardax FT Command Centre leverages a client-server architecture, enabling system operators to:

- Configure and control the site and all system components
- Manage cardholders, including their access using access groups
- Monitor alarms and interact with the system
- Retrieve and report on stored system information.

Features that are core to the system include:

- Configuration wizards and templates to assist with installation and site maintenance
- Site plans that act as a graphical representation of the site, and reflect the real time status of items
- Full alarms management, with the ability to channel all alarms from integrated systems through the Cardax FT system for appropriate action
- Comprehensive searching and reporting options
- Extensive operator privileges to control who can view and edit information
- System division, enabling the system to be segmented for management and monitoring purposes
- Cardholder Import for sharing cardholder data with other people management systems enabling a single source of data entry and maintenance
- Integration support for imaging, elevator and digital intercom systems.

Cardax FT caters for small, single sites, through to large multinational, enterprise wide installations, ensuring scalability as systems grow.

Further desirable optional features include:

- PhotoID to record images within each cardholder record and print photo identification cards together with card encoding software (Cardax format magstripe and Mifare® cards)
- The ability to add further workstations
- Integration with PowerFence™ perimeter security systems
- Cardax FT Online Manager, a web interface providing access to alarms and cardholder data, 24/7 over the Internet
- Integration with SAGEM fingerprint readers for a full integrated biometric access control solution.

Cardax FT Online Manager

Cardax FT Online Manager is a thin client interface into the Cardax FT system using client-server architecture. It is an online management tool for distributing management responsibility of cardholders and/or alarms. It enables line managers to easily manage cardholder information and access privileges for their direct reports and visitors through a clean uncluttered user interface. Reporting functions provide information to line managers from wherever they have access to the Internet. It also supports mobile security guards and managers who can monitor alarms and lookup cardholder information remotely through PDAs and cell phones.

Cardax FT Online Manager supports temporary access for contractors and visitors. Cardholder records are established and maintained in Cardax FT Online Manager, accessible for repeat visits. Temporary access privileges can be assigned to contractors and visitors in advance or in real time, supporting check-in and check-out monitoring. Visitor cards are recycled as visitors and contractors come and go.

Equipped with its own audit trail, all activity implemented through Cardax FT Online Manager is fully integrated with the Cardax FT Command Centre. Refer to the Cardax FT Command Centre datasheet for more information.

Cardax FT Controllers 3000 & 5000GL

The Cardax FT system includes the Cardax FT Controllers 3000 and 5000GL. Supported with Cardax FT GBUS and LOCAL BUS devices for I/O expansion and reader communications, the Controllers make the access control and intruder alarm decisions in the field.

The Cardax FT Controllers 3000 and 5000GL are intelligent field controllers, programmed to make access control and intruder alarm decisions in the field, independent of the Cardax FT Command Centre. This means in the event network communications are disrupted security is maintained on site.

Providing flexible configuration options to meet specific site requirements, Cardax FT Controllers:

> Support peer-to-peer communications with any Cardax FT Controller (Controller 3000 or 5000GL) over a LAN/WAN for the purposes of monitoring, back-up, and control independent of the Command Centre
> Utilize programmable logic to enable full inter-controller logic functionality independent of the Command Centre
> Communicate with the Cardax FT Command Centre using TCP/IP, a world standard network and Internet transmission protocol, over an Ethernet network
> Support downloadable code for software upgrades.

There are two families of Cardax FT devices that connect the Controllers for I/O expansion and reader connections: GBUS and LOCAL BUS.

G GBUS

Cardax FT Controller 3000

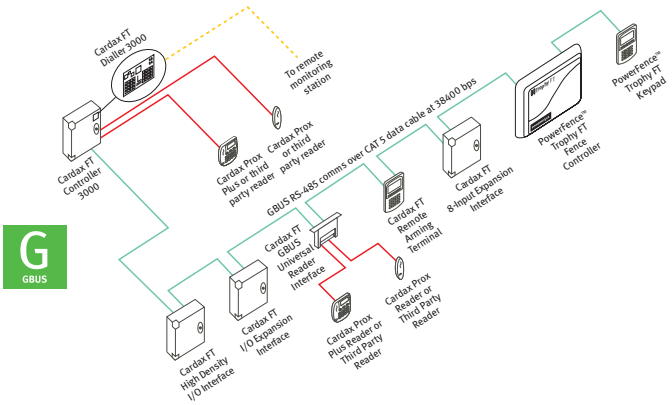
The Cardax FT Controller 3000 is specifically designed to support access controlled doors and integrated intruder alarms. There are two variants, the Cardax FT Controller 3000-8R and Cardax FT Controller 3000-4R.

The Cardax FT Controller 3000-8R has on-board connections for (with variations for the Cardax FT Controller 3000-4R shown in brackets):

> Cardax readers or Wiegand format readers
> 16 (8) balanced inputs and 8 (4) relay outputs
> One GBUS port to support:
  - GBUS I/O devices (including GBUS Universal Reader Interfaces), and
  - Cardax FT Remote Arming Terminals or PowerFence™ Trophy FT Keypads
  - PowerFence™ Trophy FT Fence Controllers.

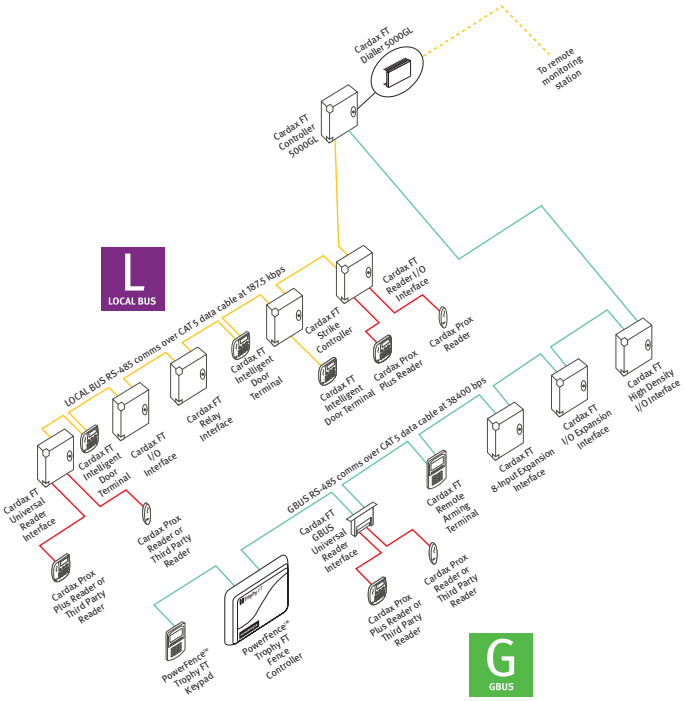
The Cardax FT Dialler 3000 is an additional device that can be attached on-board the Cardax FT Controller 3000 to enable dial-up capability for the support of remote sites, and for off-site alarm monitoring.

The Cardax FT Controller 3000 provides full onboard support for events and card records. The ratio of flash memory allocated to the event buffer versus the card database can be changed to meet specific site requirements during system configuration. Refer to the Cardax FT Controller 3000 datasheet for more information.



Cardax FT Controllers 3000 & 5000GL

The Controllers are designed with peer-to-peer communications enabling security operations in the field independent of the Command Centre and flexible and cost efficient system design.



G GBUS L LOCAL BUS

Cardax FT Controller 5000GL

The Cardax FT Controller 5000GL is a flexible field controller that supports both GBUS and LOCAL BUS devices. Because this Controller does not incorporate on-board reader connections it provides a cost-effective solution where 'alarms-only' is required. It also supports access control through configuration with expansion devices that incorporate reader connections such as the Cardax FT Reader I/O Interface and the Cardax FT Universal Reader Interface (both LOCAL BUS devices), and the Cardax FT GBUS Universal Reader Interface.

On-board connections are provided for:

- One GBUS port to support:
  - GBUS I/O devices (including GBUS Universal Reader Interfaces), and
  - Cardax FT Remote Arming Terminals or PowerFence™ Trophy FT Keypads, and
  - PowerFence™ Trophy FT Fence Controllers
- One LOCAL BUS port (with two channels):
  - to support LOCAL BUS devices, or
  - to convert to a second GBUS port
- 4 balanced inputs
- 1 relay output
- The Cardax FT Dialler 5000GL to support dial-up communications with Cardax FT Command Centre directly or via the Internet.

The Cardax FT Controller 5000GL provides full onboard support for events and card records. The ratio of flash memory allocated to the event buffer versus the card database can be changed to meet specific site requirements during system configuration. Refer to the Cardax FT Controller 5000GL datasheet for more information.

Cardax FT GBUS Devices

GBUS devices include the Cardax FT Remote Arming Terminal and cost effective I/O expansion options for system inputs and outputs, and reader connections.

Cardax FT GBUS Universal Reader Interface

G
GBUS

Cardax FT GBUS Devices

Both the Cardax FT Controllers 3000 and 5000GL support a range of GBUS devices to provide cost effective configuration options. In addition to security requirements, the devices can be used to monitor inputs and control outputs to meet other requirements such as temperature monitoring.

Cardax FT 8-Input Expansion Interface
The Cardax FT 8-Input Expansion Interface provides connections for up to 8 balanced inputs.

Cardax FT I/O Expansion Interface
The Cardax FT I/O Expansion Interface provides connections for up to 8 balanced inputs and 4 relay outputs.

Cardax FT High Density I/O Interface
The Cardax FT High Density I/O Interface provides connections for up to 16 balanced inputs and 16 relay outputs.

Cardax FT GBUS Universal Reader Interface
The Cardax FT GBUS Universal Reader Interface will provide connections for 8 inputs, 2 outputs, and 2 Cardax readers or 1 Wiegand reader. Configured in conjunction with the Cardax FT Controller 5000GL, the Cardax FT GBUS Universal Reader Interface will deliver a cost effective solution for retrofitting sites using a daisy-chained RS-485 wiring structure.

Cardax FT Remote Arming Terminal
The Cardax FT Remote Arming Terminal is also a GBUS device.

Cardax FT Remote Arming Terminal

The Cardax FT Remote Arming Terminal is a versatile, user-friendly keypad interface for intruder alarm monitoring and control.

G
GBUS

Installed within the protected alarm zone, the Cardax FT Remote Arming Terminal allows users to monitor, arm (set) and disarm (unset) various alarm zones (areas of the intruder alarm system.)

As a GBUS device, the Cardax FT Remote Arming Terminal is supported by both the Cardax FT Controllers 3000 and 5000GL.

Each Cardax FT Remote Arming Terminal can control up to 30 alarm and fence zones and up to 100 inputs located on any Cardax FT Controller (3000 or 5000GL) residing on the same network.

Users are assigned privileges to perform functions such as arm, disarm, or isolate alarm and fence zones (individually or all at once), and view and acknowledge alarms.

Secure logon is provided through entering a user code on the keypad, or alternatively using a Cardax reader in conjunction with the Cardax FT Remote Arming Terminal.

Refer to the Cardax FT Remote Arming Terminal datasheet for more information.

Cardax FT LOCAL BUS Devices

LOCAL BUS devices incorporate high speed data communications. They include the Cardax FT Intelligent Door Terminal and I/O expansion options for system inputs and outputs, and reader connections.

Cardax FT Reader I/O Interface

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LOCAL BUS

Cardax FT LOCAL BUS Devices

The Cardax FT Controller 5000GL supports a range of LOCAL BUS Devices to provide flexible configuration options. In addition to security requirements, the devices can be used to monitor inputs and control outputs to meet other requirements such as temperature monitoring.

Cardax FT Reader I/O Interface

The Cardax FT Reader I/O interface provides I/O functionality (24 balanced inputs and 8 relay outputs) and connections for up to 16 Cardax readers to the system.

Cardax FT Universal Reader Interface

The Cardax FT Universal Reader Interface provides an interface for connecting two Cardax readers, or two third party readers and a third party keypad to the Cardax FT system.

Cardax FT I/O Interface

The Cardax FT I/O Interface is an input monitoring and output control panel containing 15 balanced inputs and 5 relay outputs. It is normally configured as an input panel for intruder alarms however it can also be used as I/O for up to five Cardax FT controlled doors.

Cardax FT Relay Interface

The Cardax FT Relay Interface is an output control panel containing 20 relay outputs. It is installed where a large number of relay outputs are required and as the output interface for low level elevator access control.

Cardax FT Strike Controller

The Cardax FT Strike Controller contains 6 balanced inputs and 2 relay outputs. Its primary purpose is to provide communications isolation so that any attack on attached devices will not compromise the rest of the system. It can also provide I/O for the control of two doors.

Cardax FT Intelligent Door Terminal

The Cardax FT intelligent Door Terminal is also a Cardax FT LOCAL BUS Device. Read more on page 11.

Cardax Reader Technologies

Cardax FT Intelligent Door Terminal

Cardax readers are available in two reader technology choices: Mifare Standard and 125kHz.

Mifare Series

Mifare Standard technology provides the platform for the Cardax smart card range. The benefits of Mifare Standard smart card technology include increased card data security and the ability to have multiple applications such as biometric templates residing and operating independently on a single card. This means that the card used for Cardax access control can be a cornerstone for other smart card applications.

125 Series

Cardax 125 Series readers support the widely available 125kHz technology, allowing multiple supported card formats to be active concurrently in the system. This complete flexibility means it is possible to integrate the use of Cardax IV proprietary cards alongside third party cards.

L
LOCAL BUS

Cardax FT Intelligent Door Terminal

The Cardax FT Intelligent Door Terminal extends beyond card plus PIN functions to incorporate digital intercom and an advanced user interface.

Incorporating a dot matrix LCD, keypad and digital intercom, the Cardax FT Intelligent Door Terminal (IDT) is a feature-rich reader for high security access control.

- Intruder alarms can be armed (set) and disarmed (unset) by authorised cardholders
- The back-lit dot-matrix LCD enables prompts, time and date, feedback and cardholder names to be displayed at the reader
- If an alarm is triggered, an operator can activate the intercom to listen to what is happening in the area.

Readers for Cardax FT Systems

Cardax offers a selection of attractive Cardax readers to compliment the Cardax FT system. In addition to access control, readers can be used by authorised cardholders to arm and disarm alarms.

Cardax Prox – teardrop
(Mifare Series)

Cardax Prox Plus
(Mifare, 125 Series)

Cardax Prox Readers

Cardax Prox readers are card only readers, providing fast, secure access by simply passing a card or other transponder across the face of the unit. The readers provide visual (LED) and audible (beeper) feedback to the user.

The Mifare / 125 Series standard readers are available with an optional cradle base enabling them to be mounted over standard international flush boxes.

The teardrop reader option has a very small footprint, allowing installation on narrow mullions, providing a discreet installation profile. An optional vandal resistant cover is available.

Cardax Prox Plus Readers

Cardax Prox Plus readers are feature-rich readers incorporating a PIN pad allowing card only or card plus PIN operation where higher security than card only is required.

All Prox Plus readers include:

- A back-lit keypad for PIN entry and the arming and disarming of alarms
- A LCD panel to provide user feedback icons making the system easy to use internationally.

Cardax Protective Reader covers

Designed to look tough and be tough, Cardax Protective Reader Covers provide increased protection for readers. Available for:

- Cardax Prox (teardrop only)
- Cardax Prox Plus
- Cardax FT Intelligent Door Terminal.

Cardax Protective Reader Covers

Cardax IV Proprietary Card Format

With the Cardax IV proprietary format, enhanced data protection is achieved via:

- Encoding of issue level and region code in addition to facility code and card number, providing unique card data across global card databases
- Using 8 bit error detection protocol, ensuring that the reader correctly identifies the card being presented by the cardholder.

Ancillary products for Cardax FT Systems

A variety of ancillary products are available to complete the system.

Cardax FT Cabinets

There are three housing options for the modular Cardax FT printed circuit boards (PCBs). The sizes of the individual PCBs vary and are designed to be proportional to the footprint of the Cabinets.

1. Manufactured from a strong polycarbonate/ABS plastic alloy, the Cardax FT Cabinet provides one footprint for Cardax FT Controllers and LOCAL BUS I/O PCBs. When a PCB is installed, optical tamper protection is provided for both the front and rear.

2. A variation of the Cardax FT Cabinet, the Cardax FT GBUS I/O Accessory Cabinet is a secure enclosure providing one footprint for Cardax FT GBUS I/O Devices.

3. The Cardax FT Dual Cabinet is a secure steel enclosure accommodating two footprints, doubling the housing capacity for any combination of Cardax FT PCBs. When the PCB is installed in accordance with the Installation Instructions, optical tamper protection is provided for both the front and rear of the Cabinet. The Cabinet is available with an optional 10 Amp power supply which has visible indicators for 'low mains' and 'low battery' power monitoring.

A range of transponders for different reader technologies is available

Cardax Encoder (125 Series)

Cardax Encoder (Mifare Series)

Cardax Encoder III

Cardax Prox Cards (Mifare Series)

- Able to support multiple smart card applications, one of which is Cardax access control
- Blank cards suitable for dye-sublimation printing
- Dual-technology Prox/Magstripe cards available.

Cardax Prox Transponders (125 Series)

- Printable, ISO thickness cards
- Clamshell card and keyfob options
- Combination Prox/Magstripe cards available.

Nedap Long Range Transponders

- Cardax enabled Card Boosters (Mifare or 125)
- Nedap Window Button
- Window Button Switch
- Heavy Duty Tags
- Compact Tags

Gallagher Security Management Systems offers a card encoding service. Alternatively, un-encoded cards can be supplied for dealers and sites who wish to encode their own cards.

Cardax Encoder III

Used in conjunction with Cardax Encoders (available for each Cardax reader technology), Cardax Encoder III is a software package that enables the onsite encoding of Cardax Prox cards and transponders for both Mifare and 125kHz technologies.

Further Information
For information about Cardax systems, please visit www.cardax.com

For configuration guidelines, further technical information and site references, please contact your Cardax Business Development Manager.

About Gallagher Security Management Systems
Gallagher Security Management Systems (www.gallaghersms.com), a division of Gallagher Group Ltd, markets Cardax electronic access control systems and PowerFence perimeter security systems.

Established in 1938, Gallagher Group Ltd is the operating company for an international organisation which encompasses research and development, manufacturing and marketing of its solutions – animal management systems and security management systems.

www.cardax.com

Disclaimer
System configuration, network capacities and the volume of system activity affect performance. Please contact Gallagher Security Management Systems for advice.
In accordance with the Gallagher Group policy of continuing development, design and specifications are subject to change without notice.
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