

Cardax Prox Readers (125 Series)

Cardax Prox (125 Series) are powerful, cost effective, industry standard 125kHz proximity readers for Cardax systems.



The Cardax 125 Series readers are multimode readers supporting the widely available 125kHz proximity cards and transponders.

This enables Cardax Prox 125 readers to read both Cardax IV format, as well as a variety of Wiegand formats as provided by other reader manufacturers, such as Motorola, HID, Casi-Rusco and EM ASK.

Cardax primarily supports its own proprietary format, using Amplitude Shift Keying (ASK) modulation. When connected in the Cardax FT system, Cardax Prox 125 readers are also capable of reading the selected third party formats using Phase Shift Keying (PSK), and Frequency Shift Keying (FSK).

Any number of the supported card formats may be active concurrently within the Cardax FT system, using

Cardax Prox 125 readers. This complete flexibility means it is possible for a site to integrate the use of Cardax readers with existing third party cards in the system.

The Cardax Prox (125 Series) includes the Cardax Prox and Cardax Prox Plus readers.

Cardax Prox (125 Series)



Cardax Prox (125 Series) with optional wide mounting base

The Cardax Prox 125 reader is a card only reader, providing fast, secure access by passing a card transponder

across the face of the unit. Designed for use in both interior and exterior environments, the Cardax Prox 125 reader is also available in a hermetically sealed or “potted” version, with an environmental rating of IP66.

Dual colour LED and speaker provide comprehensive visual and audible feedback to the user.

An optional wide mounting base is available for the Cardax Prox 125 reader, enabling the reader to be mounted over many standard international electrical flush boxes. The wide mounting base also provides increased protection for the reader.

Cardax Prox Plus (125 Series)

The Cardax Prox Plus 125 reader is a card plus PIN unit, used where more security than card only is required.

The illuminated PIN pad allows a cardholder to enter a personal identification number in conjunction with a card. An LCD panel provides user feedback icons making the system easy to use internationally.

The LED and speaker also provide enhanced visual and audible feedback to the user.

Data and Tamper Protection

The Cardax FT Controllers are the intelligent units that make all access control decisions in the field. Tamper protection between the Cardax Prox 125 readers and the Cardax FT Controllers is achieved by monitoring the communications data, based on a bi-directional protocol.

An alarm will be raised at the Command Centre workstation if the reader stops communicating.

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

- data encryption on the card, adding a layer of security for card management
- 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.

High Performance Housing with Colour Choice

To suit a wide range of installation environments the reader housing is available in Cardax Cool Grey or Cardax Charcoal. The reader housing is injection moulded in a high strength, high impact resistant, engineering plastic alloy proven over many years in the Cardax product range.

The Cardax Prox Plus 125 and unpotted Cardax Prox 125 readers are rated to IP54. The Cardax Prox Plus 125 reader is rated to IP66 when used with the optional Cardax Protective Reader Cover.

Ancillary Products

Transponders

The transponder alternatives include card transponders, as well as a key fob option. Three card transponders are available: An ISO standard dimension (CR80 credit card size) printable card, with or without magstripe; and a lower cost clamshell card. These are electronically compatible to the industry standard cards as used by HID and Motorola / Indala readers.

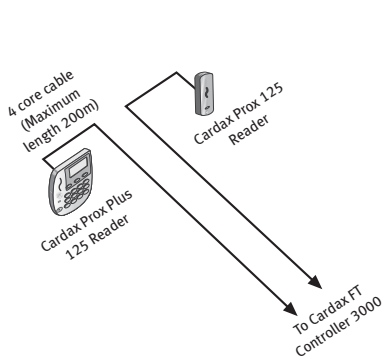
Card Encoding

Used in conjunction with the Cardax Encoder (125 Series), Cardax Encoder III is a user-friendly software package that enables the on-site encoding and re-encoding of Cardax IV proprietary format proximity cards.

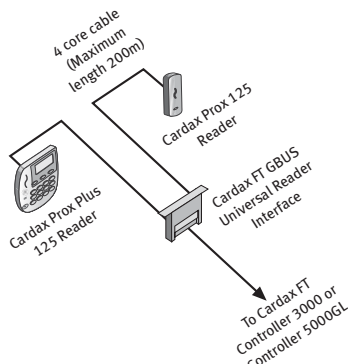
For more information about ancillary products, please visit www.cardax.com or refer to the respective Cardax data sheets:

- Cardax Encoder III for encoding Cardax IV format cards
- Cardax Protective Reader Covers

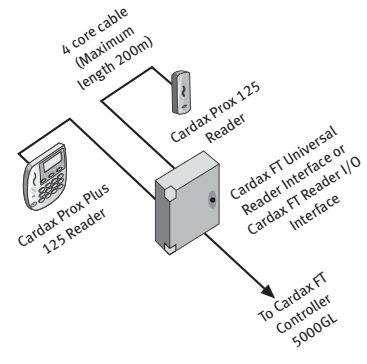
Connectivity Diagrams



G Cardax Prox 125 readers connecting to Cardax FT Controller 3000



G Cardax Prox 125 readers connecting to Cardax FT Controller 3000 or Cardax FT Controller 5000GL via Cardax FT GBUS Universal Reader Interface



L Cardax Prox 125 readers connecting to Cardax FT Controller 5000GL via Cardax FT Universal Reader Interface or Cardax FT Reader I/O Interface

March 2006

TECHNICAL SPECIFICATIONS

Cardax Prox (125 Series)

Card Formats Supported

Cardax IV Format

Wiegand formats: 26/12 bit, 26/8 bit, 27/13 bit, 36/14 bit.

Using Command Centre Universal Card Format functionality – a variety of formats as provided by other reader manufacturers, such as: Motorola, HID, Casi-Rusco and EM ASK.

There is an unlimited number of possible card formats, and it is not possible to confirm all are supported. Any third party card format should be thoroughly tested for compatibility with these card readers. We may be able to assist by creating customisations to allow some card formats to be supported. Please contact Cardax Technical Support if you require further assistance with card formats.

Reading Distance

Up to 100 mm*

* Dependant on Installation and technology (FSK/ASK/PSK)

Dimensions – Cardax Prox 125

Height	134 mm
Width	55 mm
Depth	31 mm

Dimensions – Cardax Prox 125 with optional cradle base

Height	156 mm
Width	100 mm
Depth	31 mm

Dimensions – Cardax Prox Plus 125

Height	112 mm
Width	113 mm
Depth	28 mm

Power Supply

Voltage	13.6V DC +/- 15%
Current	
Prox reader	80mA
Prox Plus reader	150mA

Note: Current increases momentarily during card reads.

Temperature Range

-10° to +50°C

Environmental Protection Rating

Potted Readers	IP66
Unpotted Readers	IP54

Mounting Surface

flat surface required

Cable Specifications

4 core twisted unshielded 24 AWG (max nominal cap 120 pF/m) 0.2mm²

Max. Cable Length

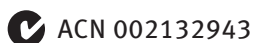
to Cardax FT Universal Reader Interface	200m
to Cardax FT Reader I/O Interface	200m
to Cardax FT GBUS Universal Reader Interface	200m
to Cardax FT Controller 3000 or 5000GL	200m

Method of Transmission

FSK, ASK or PSK at 125 Khz

Compliance Standards

All equipment complies with CE, C-Tick, UL and FCC approvals. Please contact Gallagher Security Management Systems for the latest list of approvals.



March 2006

TECHNICAL SPECIFICATIONS

Transponders

Dimensions – Cardax ISO with / without magstripe	Length	54 mm
	Width	85.6 mm
	Thickness	0.8 mm
Dimensions – Cardax Clamshell	Length	54 mm
	Width	86 mm
	Thickness	2.2 mm
Dimensions – Key Fob Transponder	Length	30 mm
	Width	43 mm
	Thickness	4 mm
Encoding Data (Encoded via Cardax FT PhotoID optional licenced feature)	Region codes	16
	Facility codes	50,000
	Card numbers	15,999,999
	Issue Levels	15



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