

Where can PROXIMITY be used?

PROXIMITY access control systems have been successfully implemented on applications ranging from one door to many doors. While PROXIMITY systems are single door units, a number are usually installed on a site to provide a multi-door system. This has proved so successful because of the speed and ease of adding and voiding cards and the ability to set up a colour zoning system to provide different access rights for separate groups of people. A coherent multi-door application can be provided at a much lower cost than that of a computer controlled network system.



PROXIMITY is not suitable for applications which require access control events to be remembered for subsequent reporting. The systems are also not suitable where it is required to control access to many different groups of people during a number of different time periods. Paxton Access manufactures other systems that are suitable for these applications. For large applications - those in excess of 50 doors or 2,000 users - we recommend consulting our Technical Helpline service.

PROXIMITY application examples



Faith Research. A typical single internal office door utilising a PROXIMITY system kit with the PROXIMITY control unit fitted on the wall inside the door and the reader on the outside. The users present a token to the reader to gain entry. The control unit operates the standard electric release. The users exit by using the door handle in the usual way. The 30 users all have green user tokens. The kit's 12V ac transformer powers the system.



ABR Holdings. The double doors into the offices are secured by magnetic locks. Entry is by presenting a token to the reader. Egress is by pressing an exit button. The control unit is fitted on a wall in a convenient location. It is supplied by a boxed dc power supply fitted in a ceiling void. Batteries are fitted in the power supply to ensure the system continues to operate and that the doors stay locked in the event of a mains power cut. A green break glass unit is fitted to satisfy the fire escape route requirements.

Timed access. A time clock could be added to either of the above systems. This could allow the door to be unlocked for a period (typically during normal working hours). Alternatively, the clock could allow access all user tokens during normal working hours but only red token holders outside of these times.

Vandal proofing. Although the reader is weatherproof, it may be fitted behind a timber or toughened glass panel to protect it from the unwelcome attention of vandals.



South Coast Laboratories. Inside this production facility there are 12 PROXIMITY systems fitted to doors into three main areas: laboratories, sales and administration and various management offices. The laboratory technicians have green user tokens, the sales and administration staff have yellow tokens and the management has red user tokens. All the zone lights are lit on the readers at the two external entrances allowing access to all staff. The readers at the entrance to the laboratories have the yellow light turned off allowing access to technicians and managers only. The sales and administration offices have the green light denying access to laboratory staff. Only the red light is illuminated on the managers' offices restricting access to red token holders. The bar all users card has been swiped at the Managing Director's door. The MD and her secretary have had their tokens enrolled here ensuring only they can open the door.



PROXIMITY and other Paxton Access systems are used in many countries around the world. Users include multi national corporations, banks, local and national government, hospitals, colleges, schools, sports clubs, theatres, factories, warehouses and many others including: Allied Breweries • Bath and District Health Authority • Banque Nationale de Paris • British Aerospace • British Gas • British Petroleum • Barclays Bank • Cable & Wireless • CEBG • Citibank • DHSS • Glyndebourne Productions • Land Registry • Littlewoods • Moorfields Eye Hospital • National Trust • Open University • Trust House Forte • Serco

Features table

Description	
Number of users	up to 10,000
User tokens	Passive (no batteries needed)
Colour access zones	up to 3 f
Individual access rights	All users
Number of time zones (time clock required)	2 † f
Second (out) reader can be added	Yes
Exit button	Yes
Card plus code (With separate keypad)	Yes
Time clock input	Yes f
Silent operation	Yes
Bar all users function	Yes f
Door open time	0.5 to 5,000 seconds
Fail open (fail safe) locks	Yes
Operates a relay	Yes
Relay toggle mode	Yes f
Water resistance (reader)	IPX7 (submersible)
Operating temperature	-20°C to 70°C
Read range of reader	40 mm nominal
Size of reader	34 x 25 x 89mm
Size of control unit unit	160 x 89.2 x 30 mm
Cable reader to control unit	9 core screened
Cable length supplied	5 m
Max. distance reader to control unit	30 m ‡
Reader life (token reads)	unlimited
Supply voltage	12 to 15 V ac or dc
Continuous output current	relay switches 5 A
Quiescent current	140 mA (with 1 reader)
† An external time clock must be connected to implement this feature	
f Implementing these features requires a Function card pack	
‡ Greater distances may be achieved by increasing the cable size	

Buying information



Kits: Each item may be purchased separately or in a boxed kit. PROXIMITY system kit includes a reader, electric release, 12 V transformer and fixings.

Tokens: One starter pack must be purchased for each site. Starter packs include 10 green user tokens. The exact number and colour of any additional user tokens required are then also ordered.



The starter pack includes a number of Function cards for providing various features. Additional Function cards are available in a separate pack. Check the Features table to see if any desired feature requires a Function card pack.

Corporate logos and ID information:

PROXIMITY tokens can be combined with company logos and artwork and photo ID information. For more information please contact your supplier.

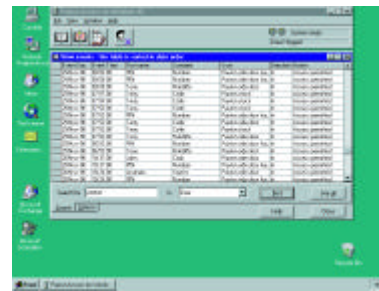
Other Paxton Access systems follow the same philosophy of making access control easy and cost effective for both the installer and the end user. For further information about buying PROXIMITY or about the products below please call us, your installer or your distributor. Alternatively see our Internet web page at <http://www.paxton-access.co.uk>.



TOUCHLOCK keypad systems are available in compact and switch versions. An attractive range of finishes is complemented by the tough vandal resistant stainless steel version.



CARDLOCK, the ground breaking system that brought new levels of ease of use to access control. Economic solutions with powerful features.



Paxton Access for Windows 95 is the ultimate in user friendly access control software. Control access by time and place and report on the movements afterwards. Proximity, magnetic stripe and keypads may be used on up to 120 doors.

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Simple & Powerful

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PROXIMITY

access control systems



PROXIMITY is the leader in providing simplicity and ease of use in access control. The ingenious method of system set up and card management was developed by Paxton Access. Although simple to operate, PROXIMITY offers a wide range of powerful features. PROXIMITY products are also excellent value and the ease of installation, set up and training results in very competitively priced installations.

Paxton Access Ltd is a market leader in the design and manufacture of access control systems. The products are rich in features and provide excellent levels of quality and reliability at a competitive price. Above all, our systems are designed to be exceptionally easy to install and use. The products are available from a wide range of professional installation companies and the leading security industry trade distributors.



**PAXTON
ACCESS**

Simple & Powerful

The advantages of card access

An increasing number of organisations of all sizes have been recognising the benefits of replacing their old key based systems for controlling access to buildings with card based electronic access control systems. The benefits in lower running costs and ease of administration are well proven. For example, when a key is lost locks have to be replaced to maintain security levels. By contrast, a card access control system will simply allow lost cards to be cancelled. Card access provides convenient control over who can go where.

PROXIMITY technology

There have been a number of card reading technologies produced in the last 20 years, the most popular being magnetic stripe. They have required a card to be swiped or inserted into a reader. PROXIMITY works in a very different way.

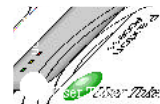
The reader constantly emits a radio signal



The PROXIMITY reader constantly transmits a low power radio signal. When a PROXIMITY token is placed within about 40mm of the reader, an aerial inside the token picks up the signal. The aerial is connected to a silicon chip inside the token. The chip starts to decode the incoming

signal and, if it identifies the reader as a Paxton Access unit, it sends a unique code which the token's aerial transmits back to the reader. The incredible thing is that the token does not need a battery. It gets all the power it needs for processing and transmitting signals from the reader's radio signal.

The token transmits a unique code to the reader



The proximity reader sends the information that it has received back to a control unit to which it is connected. If the User token is a valid one, the control unit instantly grants access through the appropriate door.

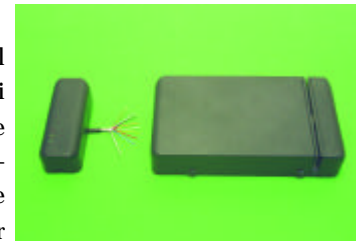
The convenience of PROXIMITY

As a reading technology, PROXIMITY has several advantages over magnetic stripe systems:

- It is convenient and easy to use. PROXIMITY does not demand the precision of action required with systems that require a card to be swiped or inserted. Reading the token is quicker and results in fewer user problems.
- The PROXIMITY token can be kept inside a wallet or purse when presented to the reader.
- It is more secure. The PROXIMITY token is very difficult to copy.
- It is more robust. PROXIMITY as a non-contact technology does not suffer from reader or card wear.
- PROXIMITY lasts indefinitely. There are no batteries to wear out as the token is powered by the reader.

Simple components and installation

PROXIMITY systems comprise PROXIMITY readers connected to a PROXIMITY control unit. The reader is mounted outside the secure area and is connected by a single multi core cable to the control unit. The control unit is positioned inside the secure area. The control unit has a magnetic stripe reader built into it which is used for system administration. The excellent aesthetics of the control unit mean it can be mounted on an office wall or in an other convenient location.



This makes access for the administrator immediate as there are no cabinets or panels to open for system programming.

The lock and power supply are wired to clearly labelled connections in the control unit. The power supply may be positioned remotely in a ceiling void or service cupboard. An exit button may be added if required. A second reader may be fitted where reading out of an area is also required.

The lock output is configured to allow operation of virtually any kind of lock, gate, barrier, turnstile lift car, etc and simple connection to other equipment such as audio or video door entry systems. Fail open (fail safe)

or fail locked (fail secure) devices can be used.

Security for external doors

There are many access control systems available (Paxton Access make several of them) that have all of the intelligence within the reader housing (these are often called compact products). While these have many useful applications they should not be used on external doors because access can be gained by tampering with the reader and cables. With PROXIMITY, the intelligence is in the control unit inside the secure area. The reader simply sends data from the token to the control unit. This means that it is impossible to gain entry by tampering with the reader. This makes PROXIMITY highly suitable for external doors and other higher security applications where there is a perceived risk of tampering.

The disadvantage of card access

The one disadvantage of card access control has been the complexity of the systems. This led to a large overhead in time for both the installer, in learning how to install and commission, and the end user, in learning how to manage the systems. Systems typically require lengthy training sessions to learn. In all but the largest installations the programming functions are not used on a regular basis and the system user will find it impossible to remember them. This frequently results in battles with unfriendly manuals and call outs for the installation company to help with basic system operations.

Why PROXIMITY is different

PROXIMITY was specifically designed to address these problems. All system settings and card management are implemented by presenting tokens to the reader or swiping cards through the reader in the control unit using an ingenious method invented by Paxton Access. The installer and end user can learn all they need to know about the system in minutes. The system is so easy and intuitive to manage that even infrequent users remember how. Installation and training costs are reduced to a minimum. This has been achieved without compromising PROXIMITY's powerful range of features.



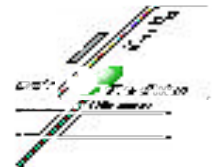
System set up

Once the system is installed, a Function token called the Enrolment token is presented at each reader once. This gives the readers a unique site code and only tokens that have been issued with the encrypted code for that particular site will ever be valid to work there.



Token issuing

The tokens are supplied in wallets. In each pocket in the wallet is a User token and a paper Shadow card. To issue a token the administrator removes both the token and the card from a pocket in the wallet. The name of the new token holder is written on both. The Shadow card is returned to the wallet and the user is given their User token. The User token is ready to use and will provide access immediately without the administrator having to leave his or her desk.



Voiding a lost token

When a token is not returned or lost, the administrator simply looks for the user's name on the relevant Shadow card in the wallet. This card is taken from the wallet and swiped through the swipe reader which is built into each control unit. The lost User token is then void.



Re-enrolling a found token

Take the Enrolment token from the wallet and present it to each reader followed by the User token. The User token is now valid again.



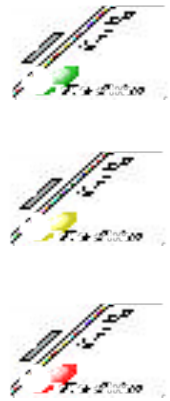
Simplicity With Powerful Features

For a majority of installations the validating and voiding of tokens as described above will be the only knowledge required. However, for those installations requiring finer controls, PROXIMITY provides a range of other features that are further explored in this leaflet. These include zoning for individuals and groups of people in multi door systems and timed access control.

Colour Zones with PROXIMITY

The User tokens may be purchased in three colours - green, amber and red. These colours correspond to the green, amber and red lights which are on the front of each PROXIMITY reader. Green, amber and red Zone cards may be purchased and these are used to switch the lights on or off. For example, swipe the green Zone card at the control unit to turn off the green light. Swiping the card again would turn the light back on.

The rule is simple. If the green light is on, green User tokens can open the door. If the green light is off, green User tokens are not valid. All doors on a site may be set up to allow access to any combination of green, amber or red User tokens by simply swiping the appropriate Zone cards at the control unit. For the token holder life is very simple. At any door they look at the colour of their User token and if the corresponding light is illuminated on the PROXIMITY reader at that door they may enter.



How to Implement Other Useful Features with Function Cards

Other useful features make PROXIMITY suitable for a wide range of applications. All settings are implemented using Function Cards. The Function Cards are issued in wallets for safe keeping. Simple instructions are printed on each card - instruction manuals are not required. Function cards are swiped through the magnetic swipe reader in the control unit.

Once a valid card has been swiped, the period of time for which the lock is open is called the door open time. To set this, swipe the Door open time card, count the number of seconds (beeps) you wish the lock to be open for and swipe the card again.

Swiping this card allows a time clock to be used to switch between two colour zone configurations. For example, green, amber and red User tokens may be allowed access during normal working hours while only red User cards are allowed at other times.

Swiping this card allows a Paxton Access TOUCHLOCK keypad to be connected to a PROXIMITY system requiring both a valid token and a valid code to gain entry. Where higher security is required, this provides protection against lost or stolen cards. Using a time clock, this can be set up to work on a timed basis where token only or code only are required during normal working hours.



PROXIMITY provides an audible indication of some operations. If this is inconvenient just swipe the Silent operation card to turn the beeps off. At any time, swipe again to turn the beeps back on.



Swiping this card voids all the User tokens for the site. To allow access, User tokens then have to be individually enrolled at the reader by presenting the Enrolment token followed by the authorised person's User token. This is occasionally required on high security entrances such as to a cash office.



This card changes the operation of PROXIMITY so that after swiping a valid User token the door will remain unlocked until another valid User token is swiped. A common use of this feature is to operate automatic roller shutter doors. It may also be used to switch alarm or other systems on and off.

Upward compatibility

It may be decided to upgrade the system to provide reporting on peoples' movements and/or central software control. PROXIMITY switch allows for economic upgrading to such a system in the future with little redundancy of the equipment used in the initial installation. TOUCHLOCK keypad systems can easily be added at any time to upgrade PROXIMITY to token plus code operation for higher security applications.

PROXIMITY'S memory

PROXIMITY access control systems can have the power supply backed up to ensure that normal access control continues in the event of a power failure. The systems can be connected to a central uninterruptable power supply or, more usually, to a 12 V dc local power supply that is fitted in a cabinet with batteries. In the event that all power to any PROXIMITY system is cut off, special eeprom memory ensures that the system remembers all of its settings making reconfiguration unnecessary when power is restored.