

# Access Control at its Simplest



*PROXIMITY and CARDLOCK set new standards for 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, the systems offer a wide range of powerful features. They are also excellent value for money 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 leading security industry trade distributors.*



# PROXIMITY and CARDLOCK

## The advantages of electronic access control systems

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 or token 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, an access control system will simply allow cards or tokens to be cancelled. Card access systems provide flexible, convenient and secure control over who can go where.

## The disadvantages of electronic access control systems

The one disadvantage of electronic 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 to manage the system and training staff in this. Systems typically required lengthy training sessions to learn. In all but the largest installations the programming functions tended not to be used on a regular basis and the system user found it impossible to remember them. This frequently resulted in battles with unfriendly manuals and call outs for the installation company to help with basic system operation.

## How PROXIMITY and CARDLOCK are different

PROXIMITY and CARDLOCK systems were specifically designed to address these problems. All system settings and card management are implemented by using cards at the readers using an ingenious method invented by Paxton Access. The installer and end user can learn all they need to know about the systems in minutes. PROXIMITY and CARDLOCK are so easy and intuitive to manage that even infrequent users remember how. Installation, training costs and associated staff overheads are reduced to a minimum. This has been achieved without compromising a powerful range of features.



## How do CARDLOCK and PROXIMITY systems work?

### **System set up**

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

### **Card issuing**

Cards are supplied in wallets. Each pocket in the wallet contains a User card and a Shadow card. To issue a card the administrator removes both cards from the wallet. The name of the user is written on the Shadow card and on the User card. The Shadow card is returned to the wallet and the user is given their User card. The User card is ready to use and will provide access immediately. The administrator does not have to leave their desk to enable the cards at the readers - they are valid straight out of the wallet.

### **Voiding a lost card**

When a card is not returned, 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 used at each reader. This voids the lost User card which can no longer be used on the system. This method allows any individual card - even if it is lost - to be removed from the system.

### **Re-enrolling a found card**

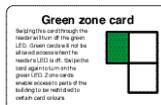
The Enrolment card is taken from the wallet and used at each reader followed immediately by the User card. The User card is now valid once more. The system manager always remembers these simple procedures.

# PROXIMITY and CARDLOCK

## Simplicity with powerful features

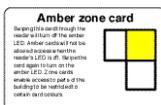
For the majority of installations the validating and voiding of cards as described opposite will be the only knowledge required by the system user. The systems are also suitable for multi-door sites due to the unique and simple method of colour zoning described below. They are also suitable for larger numbers of users because the cards do not have to be enrolled at each door - they are automatically valid when issued from the wallet - and because of the easy and speedy method for voiding individuals with the use of a shadow card. For these reasons, PROXIMITY and CARDLOCK are often used for clubs and other larger and multi-door applications where in the past a network solution would have been required. See the case studies inside the back page of this leaflet. The systems have a capacity of up to 10,000 users.

## Colour zones with PROXIMITY and CARDLOCK



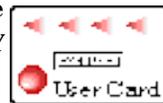
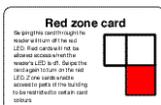
The User cards and tokens may be purchased in three colours - green, amber and red.

These colours correspond to the green, amber and red lights which are on the front of each reader. Green, amber and red Zone cards may be purchased and these are used to switch these lights on or off. For example, use the green Zone card to turn off the green light.



Using the card again would turn the light back on.

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



## CARDLOCK with swipe cards or PROXIMITY with cards or keyfobs?



### CARDLOCK - a proven, durable system

- CARDLOCK is a robust, weatherproof reader. The swipe cards have hi-coercivity magnetic stripes which are far more durable than the lo-coercivity stripes used on bank cards. The system has proved its reliability on thousands of sites around the world.
- CARDLOCK magstripe cards are lower in cost giving a lower cost per user.
- Magstripe cards produce much lower cost ID solutions than PROXIMITY.
- CARDLOCK readers have great aesthetics with their metallic construction and finish. PROXIMITY readers cannot have solid metal housings as they would completely screen the radio signal used to communicate with the PROXIMITY cards.
- Many users like magstripe as they are used to it with long experience of bank cards.
- Magstripe cards are widely used for applications such as cashless vending and cashless payment systems. They provide a low cost and flexible platform for integrating the applications on one card.

### The convenience of PROXIMITY

- PROXIMITY 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 card is quicker and results in fewer user problems.
- It is more secure. The PROXIMITY card is very difficult to copy.
- Our unique vandal proof reader can provide truly vandal proof applications.
- A range of tokens are available to give specific advantages to different users.

### Types of PROXIMITY token

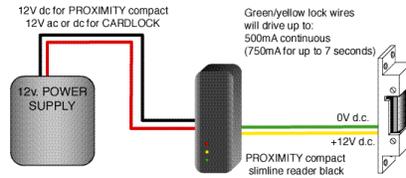
- Keyfobs are the hardest wearing device. They are looped onto a ring with car keys or other keys - they rarely get lost. They have a lifetime guarantee.
- Cards are used where it is preferred to carry the device in a wallet or purse. The wallet can be presented to the reader which reads the card within. Cards are also used to provide a low cost laminated photo ID solution. The cards are about double the thickness of standard credit cards.
- ISO cards are the size of standard credit cards. They can be printed on by desktop plastic card printers to produce photo ID cards. They have a magnetic stripe and can be used in conjunction with the many cashless point of sale and vending systems that use magnetic stripe. Alternatively, they can be used where a mixture of magnetic stripe and proximity access control readers is required.



# PROXIMITY and CARDLOCK

## Compact or Switch?

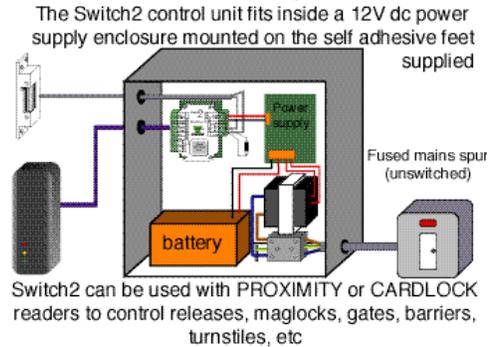
**Compact systems** - Compact products have all of the electronic circuitry, memory and intelligence inside the body of the reader. The benefit of this is that installation wiring is very simple. Both CARDLOCK and PROXIMITY compact have three pairs of cables coming out of the rear of the reader. One pair connect to a 12 volt power supply and another pair to the lock. The third pair connect to an exit button or time clock or are cut short if not required. CARDLOCK may have an a.c. or a d.c. supply, PROXIMITY must have d.c. The use of the latest silicon chips and surface mount techniques enable these small readers to control access for 10,000 users as well as colour zones and other features.



**Readers with a Switch2 control unit** - All the electronic circuitry, memory and intelligence are taken out of the reader and



mounted on a separate control unit. Switch2 control units have been designed to be located inside a 12 volt d.c. power supply cabinet using the adhesive backed mounting posts provided. They can alternatively be mounted in a specially designed plastic housing which has excellent aesthetics and many thoughtful installation features. The power supply and / or plastic housing may be positioned remotely in a ceiling void or service cupboard. Clearly labelled connections are provided for one or two readers, locks, exit button and a door contact. Switch2 does not record events.



## Why use readers with separate Switch2 control units?

### To provide higher security levels

With any compact product the electronics are all in the reader on the insecure side of the door. This means that it is prone to tampering and unauthorised access. With Switch2 the intelligence is separate from the reader inside the secure area making it impossible to gain access by tampering with the reader. **It is therefore strongly recommended that readers with separate control units are used in preference to compact products for external doors.** This point is applicable to any compact product, whether manufactured by Paxton Access or another manufacturer. Switch2 should also be considered for any higher security internal areas where there is a perceived risk of tampering to gain entry.

### Additional features of CARDLOCK and PROXIMITY when used with a Switch2 control unit

- The Switch2 control unit has a relay with clean contacts that can switch loads up to 5 amps. This allows the operation of virtually any type of lock, gate, barrier, turnstile, lift car, etc. and simple connection to other systems such as audio or video door entry systems.
- Switch2 is required if both an exit button and a time clock are to be used with the system.
- One or two readers may be connected for control in to and out of the secure area.
- Switch2 has inputs for a door contact. This provides re-lock as soon as the door is closed and door forced alarms.
- Switch2 has a toggle mode and other features.
- Where a future upgrade to a PC software based system may be possible, use Switch2 rather than compact systems.

## Upgrade compatibility

There may be a possible future requirement to upgrade to a system that records the movements of card holders and to report on these movements. A good way to allow for this is to use Switch2 as the system can be upgraded by simply replacing this low cost control unit. The bulk of the installation - readers, locks, power supplies, cabling, etc - can be kept. The Switch2 control unit would be replaced by a Net2 access control unit. Where event recording is certain to be required within a year or two we would recommend installing Net2 as a standalone system rather than PROXIMITY or CARDLOCK. Please ask for our separate leaflet on the Net2 system. Net2 software sets new standards of ease of use in PC software managed access control. Some of the additional benefits of a Net2 system are:

- Central control of all doors - hundreds are allowed on the system.
- Up to 10,000 users with full audit trail of each individual user's movements.
- Highly flexible control of access by time and each entry point for individuals and for groups of users.
- Flexible reporting on the events at one entrance or on one person or on groups of people or by department.

# PROXIMITY and CARDLOCK

## PROXIMITY encoding system

This innovative new product enables the system manager to encode PROXIMITY tokens at his own desk. This provides two great benefits. The first is a big cost saving on PROXIMITY cards and keyfobs. Low cost unencoded devices can be purchased. The second is the system provides a super way of administering cards for larger groups of users. While our standard card packs with shadow cards have proved to be outstandingly simple to use and popular over the years, we believe that the PROXIMITY encoding system will make life even simpler for system managers with larger numbers of users - say 50 plus.



The software takes minutes to learn. To add a user click on 'Add user' and enter the name. To issue a card to the user, click on 'Issue card' and place a user token on the encoder and click 'Encode'. Give the token to the user, they will be able to gain access immediately. You do not need to go to each door to enrol any user card. To delete a card, select the person in the alphabetical list, put a token on the programmer, click on 'Void user', show the token to each reader. That simple.



The system is ideal for clubs. The user database is held in Microsoft Access format. Microsoft Access can be used to add up to 20 fields to the database with the names and order of the fields being chosen by the user - see the example screen above. The system can be used as a full membership database with fields for address, membership and payment status, etc. The data can be mail merged with standard word processing software to produce circulars or membership renewals to members.

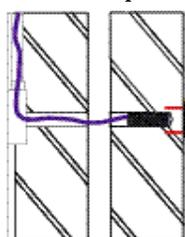
## PROXIMITY vandal proof reader

How can a plastic reader be vandal proof?

- The unique design of this PROXIMITY reader enables it to be as tough as the wall. Simply drill a 20mm hole and slip the reader in from either the inside or the outside. The reader will read the users' PROXIMITY tokens through the solid wall construction. Fully waterproof to IP67.
- The smart plastic cap provided or another non-metallic architectural marker can be used to indicate the place where the user presents their PROXIMITY token. 8 different colours of cap are supplied with the reader.



- The reader is available for use with Switch2 or Net2 control units or a compact version is available - a complete standalone system with all the intelligence in the reader for up to 10,000 users.
- The reader in the detail on the left is fitted in a blind hole drilled from the inside.
- The reader in the detail on the right is fitted in a hole drilled from the outside. The hole is plugged with cement mortar after the reader is in place.
- The reader can be surface mounted internally to provide the tiniest reader available for discrete applications. Screw the reader into the mounting plate to fix on to any type of wall.



## In the event of power failure

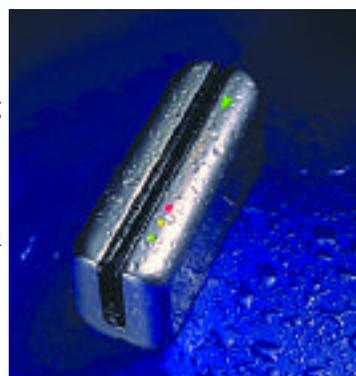
PROXIMITY and CARDLOCK access control systems can also have the power supply backed up to ensure that normal access control continues in the event of a power failure. The systems can be connected to a central uninterruptable power supply or, more usually, to a 12 V dc local power supply that is fitted in a cabinet with batteries.

## PROXIMITY and CARDLOCK's memory

In the event that all power to any PROXIMITY and CARDLOCK system is cut off, special eeprom memory ensures that the system remembers all of its settings making reconfiguration unnecessary when power is restored.

## Robust, weatherproof readers

All PROXIMITY and CARDLOCK readers have potted electronics and a cable tail sealed into the reader. They are completely waterproof to IP67.



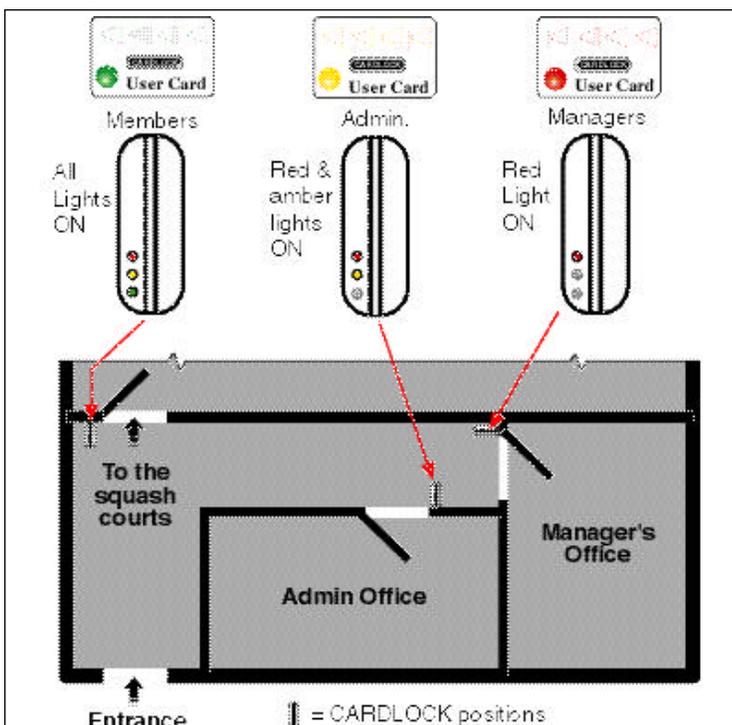
# PROXIMITY and CARDLOCK

## Where can PROXIMITY and CARDLOCK be used?

PROXIMITY and CARDLOCK access control systems have been successfully implemented on applications ranging from one door to four hundred doors. While PROXIMITY and CARDLOCK 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 a computer controlled network system. Photo ID details can be included on the card.

PROXIMITY and CARDLOCK are 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.

## Example of using colour zones with PROXIMITY or CARDLOCK



Buying list for a CARDLOCK system:

Part no.	Description	Number required
895-456SC	CARDLOCK compact kit satin chrome	3
850-100	CARDLOCK 100 card starter pack	1
875-001G	CARDLOCK 1 extra user card green	300
875-001A	CARDLOCK 1 extra user card amber	8
875-001R	CARDLOCK 1 extra user card red	2
877-012	Function card pack	1

Buying list for a PROXIMITY system:

Part no.	Description	Number required
250-000WT	PROXIMITY compact slimline kit white	3
855-100	PROXIMITY 100 card starter pack	1
875-021G	PROXIMITY 1 extra user card green	300
875-021A	PROXIMITY 1 extra user card amber	8
875-021R	PROXIMITY 1 extra user card red	2
877-012	Function card pack	1

Buying list for a PROXIMITY system with a PROXIMITY encoding system

Part no.	Description	Number required
250-000WT	PROXIMITY compact slimline kit white	3
412-332	PROXIMITY encoding system	1
202-668G	Unencoded PROXIMITY card green	300
202-668A	Unencoded PROXIMITY card amber	8
202-668R	Unencoded PROXIMITY card red	2

This example shows how colour zones can be used to restrict the movements of different groups of users to certain parts of a building. The readers and cards could be CARDLOCK or PROXIMITY as both systems work in an identical way. A squash club is used in this illustration but, as the case studies opposite show, the features would be equally applicable to offices, factories, colleges, hospitals and most other premises.

At the squash club, Green user cards are issued to the 370 Members. Amber cards are given to the 5 administration staff. The manager has a red card. All cards will give access when they are issued in the Admin office without having to go to each door to enrol them. For convenience, a few additional spare cards are purchased.

Only the red zone light is illuminated on the reader at the Manager's office showing that only the manager's red card will be allowed to open this door. The red and amber lights are illuminated on the reader at the Admin office door showing that the Manager's red card and the amber cards issued to the Admin staff will open this door.

All lights are illuminated at the entry to the squash courts. This means that all card holders can gain access at this door. The members' green cards will of course not allow them access to the manager's or Admin office when the doors are closed.

The zone lights are set by simply swiping the relevant coloured zone card (as explained on page 3 of this leaflet).

When any member loses their card or does not pay their renewal fee, one swipe of their shadow card will stop them from opening the door to the squash courts (as described at the bottom of page 2 of this leaflet).

# PROXIMITY and CARDLOCK

## PROXIMITY and CARDLOCK in use - some case studies



**Hauseman Research.** A typically simple use of PROXIMITY. Several internal rooms have their doors fitted with PROXIMITY compact and an electric release. Entry to the rooms is by swiping a card, exit is by using door handles in the usual way. Staff authorised to enter these rooms are issued with green user cards which permit access when swiped.



**ABR Holdings.** The main entrance double doors into the offices are secured by magnetic locks. The office is in an inner city street and a PROXIMITY vandal proof reader was selected and fitted into a drilled hole in the wall. A small marker on the wall shows staff where to present their PROXIMITY keyfobs. Egress is by pressing an exit button. A green break glass unit is fitted to satisfy the fire escape route requirements. A time clock has been added so that the doors are unlocked during normal working hours.



**Bedfordshire and Luton Community NHS Trust.** Buildings and adjoining car parks on several sites have been fitted with PROXIMITY systems using vandal proof readers. On one site each car park has been given a colour zone. EMI staff and green card holders from other sites have been given access to the green zone car park. Only day staff have access to the red zone to avoid the overcrowding of this car park during the day. A combination of cards and keyfobs are being used by the Trust. PROXIMITY systems are being gradually added to other sites as the buildings are refurbished, allowing the cost of access control to be spread over a period of time.



**Glyndebourne Opera House.** Forty CARDLOCK units have been installed to doors throughout the complex. Green user cards are issued to performers, amber user cards to stage crews and joiners and red user cards to management staff. A number of doors connect the public areas *front of house* to *back of house*. All the zone lights are on at these doors allowing access to all user card holders but not to the public. The offices and workshops of the joiners and stage crews have amber and red zones alight, denying access to performers. The red zone light only is lit on the management offices. The directors and cash office doors have had the Bar all users card swiped through them. Only two or three red user card holders have access to these rooms.



**Royal British Legion.** CARDLOCK has been installed at a number of Royal British Legion clubs. Members have cards that allow them into the building. Cards are swiftly voided from the system for those who do not renew their membership. The system is linked to an audio entry system and video camera. This allows members who have forgotten their card to buzz through, be identified and granted access from the bar. The PROXIMITY encoding system now gives clubs the ability to use its database as a full membership database; it allows mail merges for circulars to members. It also allows the use of low cost unencoded cards making PROXIMITY viable for clubs with large numbers of card holding members.



**Cable & Wireless College.** 400 CARDLOCKS have been installed at this award winning building. Students have green cards which allow them into the main college corridors during normal college hours. Lecture rooms and laboratories can only be opened by members of staff who have red user cards. Catering staff have access to the kitchens with their amber User cards. Cards are issued to students using a single site CARDLOCK card issuing system which is available for applications with a large number of users.

**A London housing association.** 700 PROXIMITY readers have been fitted to the lodging rooms and communal area doors in a number of hostels in London. Vandal proof readers have been chosen for the scheme as there is a significant risk of vandalism. A PROXIMITY encoding system is used at each hostel to issue keyfobs for that site.

PROXIMITY and CARDLOCK have been installed in hospitals, schools, universities, local and central government buildings, offices, factories, distribution depots, clubs, restaurants, etc. The systems are being installed in 20 countries world-wide.

# PROXIMITY and CARDLOCK

## How PROXIMITY and CARDLOCK are different

These systems were specifically designed to be simple to install and use and we have set new standards in this. We have achieved this simplicity without compromising an impressively powerful set of features. The advantages of this approach to design gives the following benefits to users of our products:

- Managing the systems is learnt in minutes saving much time in training existing and new staff.
- The systems are so simple and intuitive that nobody forgets how to use them - call outs and retraining are minimised.
- Big savings in running costs result from the above.
- Savings in installation, commissioning and training times result in very competitively priced installations.
- Any individual card can be deleted from a system in seconds without having to have the card. This means that lost cards can be individually deleted.
- The unique features of the systems enable them to be used for large applications of many doors and thousands of users. No other standalone system can provide practical solutions in these cases - more expensive PC software based solutions would always be needed. For examples see the case studies inside the back page of this leaflet.
- Good aesthetics - the products have been designed to look great.
- 5 year guarantee on most systems and parts - call us or see our web site for exact details.

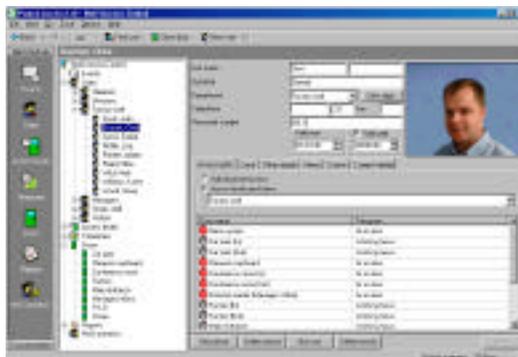


## Key features of PROXIMITY and CARDLOCK

- Rapid voiding of any individual user on the system - including the voiding of cards and tokens that have been lost.
- Up to 10,000 users and support for 3 colour zones, time control, in and out control, card plus PIN, etc.
- Control of doors, turnstiles, gates, barriers, shutters or even lighting and other building services.
- Tough, weatherproof readers including our unique vandal proof reader design.
- A range of reader finishes and colours.
- Higher security versions with separate control units for external and other sensitive doors.

**Other Paxton Access systems follow the same philosophy of making access control easy and cost effective for both the installer and the end user - simple and powerful.**

**Net2** is a revolutionary new PC based access control system. It has innovative features that reduce running costs and protect the investment made in the system. Net2 provides flexible control of access for individuals and groups of people by time and place with recording of all events for later reporting. The thoughtfully designed, intuitive user interface allows the main system features to be used with little training. For further details please ask for the Net2 systems leaflet.



## TOUCHLOCK

TOUCHLOCK compact keypads are available for easy wiring. For higher security, TOUCHLOCK keypads are available for use with separate control units - Switch2 for simple systems and Net2 for PC based systems. The keypads are available in a range of attractive finishes. TOUCHLOCK keypad stainless steel is highly vandal resistant and is suitable for heavy use. Please ask for the leaflet on TOUCHLOCK systems for more detail.

For further information call us, your installer or your distributor. Alternatively see our Internet web page at <http://www.paxton-access.co.uk>

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