



# Access Control PRODUCT CATALOGUE



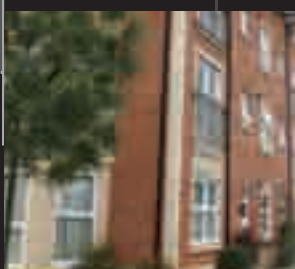


The PAC product portfolio offers versatile access control solutions. Whether our customers require a single door installation or a fully integrated global web-based system, there is a PAC product to suit every application and budget.

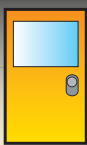












Designed around the practical needs of dealers, installers and end-users we offer a complete portfolio of products including readers, controllers and software, all of which can be integrated with CCTV, Time and Attendance, Intruder and Staff Protection systems.

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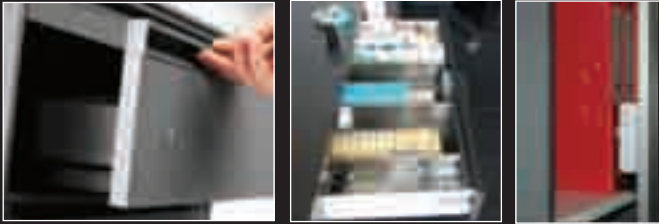
# Product Selector

						
	DOORS	KEYHOLDERS	OPERATORS	TIME PROFILES	CLIENT PCs	PAGE
	1	Up to 50	1 Master Key	N/A	N/A	4
	1	Up to 2,000	2 Master Keys	N/A	N/A	4
	1	Up to 200*	1 Master Key*	N/A*	N/A	6
	1 or 2	Up to 250	3 Master Keys	N/A	N/A	8
	1 or 2	Up to 1,000	1 Master Key 5 Editor Keys	Up to 8	N/A	9
	Up to 16	Up to 1,100	Up to 100	Up to 8	Web Browser Interface	10
	Up to 2,000	Up to 75,000	Up to 100	Up to 200	Up to 15	12
	Up to 1,000	Up to 75,000	Up to 100	Up to 50	Up to 15	19

\* Information relates to ePAC Cylinder in Standalone mode.  
For integrated ePAC Cylinder details please see page 7

# Electronic™ CABINET LOCK

The cost effective and easy to install Electronic Cabinet Lock offers increased security for locking cabinets, desks and furniture. The lock is a standalone unit with a spring mechanism that is driven by an electric motor (3V) and 125KHz reader. The replaceable lithium cell 3V battery supplies sufficient electrical power to assure 20,000 openings.



## FEATURES:

- Up to 50 ID devices can be programmed onto each lock
- KeyPAC 125KHz proximity technology
- Electric motor using a 3V lithium battery
- Sufficient electric power to assure 20,000 openings
- Replaceable battery
- Low battery warning signal
- Easy to install
- Easy to add/delete ID devices
- Works with existing KeyPAC access control tokens



## 40224 Electronic Cabinet Lock



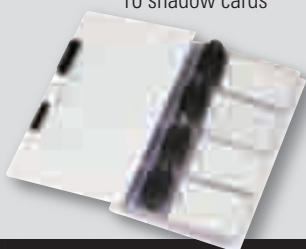
### Includes:

- 1 Master card
- 2 KeyPAC tokens
- Full fitting instructions & screws

## ACCESSORIES

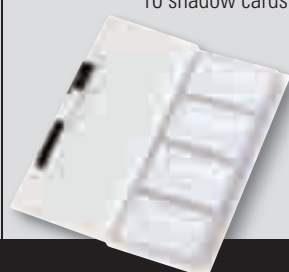
### 20019 KeyPAC ID Wallet

- 10 KeyPAC tokens with 10 shadow cards



### 20018 KeyPAC ID Wallet

- 10 KeyPAC cards with 10 shadow cards



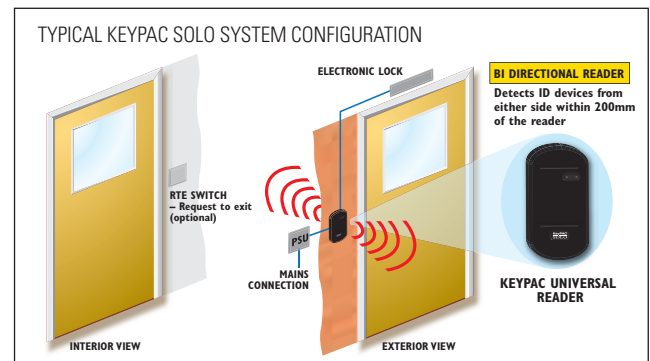
# KeyPAC® SOLO



The KeyPAC® Solo is a low cost and easy to install standalone reader/controller. Available in three housings, the single door access control system comes with a built-in sounder which can be programmed to issue a local alarm when a door is left open or forced.

## FEATURES:

- Up to 2,000 users
- Up to 200mm reading range
- Bi-directional reading (Standard & Universal)\*
- Anti-tamper protected
- Easy to install
- Simple to use
- KeyPAC 125KHz proximity technology
- 5 year guarantee
- Lifetime guarantee on PAC proximity cards and tokens



\* For correct bi-directional operation please refer to the user guide

## 7 Technical Tip

PAC recommend using a power supply with battery charger and output 12V DC at up to 3.0 Amp.

## 21631 KeyPAC Solo – Standard Black



- Supplied with 2 Master cards
- Designed to fit a standard UK single gang backbox
- Clip in decor panel
- H: 86 x W: 86 x D: 15mm

## 21630 KeyPAC Solo – Vandal Resistant



- Supplied with 2 Master cards
- Suitable for external use
- Impact and vandal resistant
- Vandal screwdriver required (part number 1950)
- H: 100 x W: 100 x D: 12mm

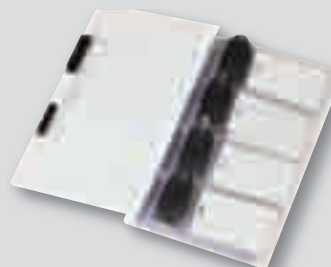
## 21632 KeyPAC Solo – Universal Black



- Supplied with 2 Master cards
- Designed to fit a standard UK single gang backbox
- Clip over decor panel
- H: 140 x W: 80 x D: 25mm

## ACCESSORIES

## 20019 KeyPAC ID Wallet



- 10 KeyPAC tokens with 10 shadow cards

## 20018 KeyPAC ID Wallet



- 10 KeyPAC cards with 10 shadow cards

## 21030/5.00 KeyPAC Master Card

**Master Card - How to add/delete cards/keys**

Present Master Card to unit three times  
Two beeps and yellow LED indicates edit mode  
Present cards/keys to unit  
Green LED indicates cards/keys added to unit  
Red LED indicates cards/keys deleted from unit  
Present Master Card to exit

- Available individually as a replacement card

## 1950 Screwdriver for Vandal Resistant Screws



- For use with 21630

# ePAC™ Cylinder

The ePAC™ Cylinder is a standalone solution that reliably and cost effectively controls access to doors. Fast and simple to install, the ePAC Cylinder can replace existing key based manual cylinders without having to replace the entire lock.



## KEY FEATURES:

- Reads KeyPAC® (125KHz) proximity technology
- Up to 200 keyholders in standalone mode
- Replaceable 3V Lithium batteries with battery life of up to 30,000 operations in standalone mode
- External emergency power adapter available
- Service Card, Disassembly Card and Battery Card offers compatibility with more than one Electronic Cylinder
- In-built wireless capability providing easy upgrade from standalone mode to iPAC, SecureNet or EasiNet Residential
- Euro profile Mechanical Cylinder
- Designed for internal use and IP65 rated
- Dual Electronic Cylinder option available per door

**Turn a mechanical cylinder into an electronic proximity cylinder in minutes...**



## Standalone

40249 KeyPAC Electronic Cylinder

40312 MiFare Electronic Cylinder



- Built-in proximity reader (KeyPAC 125KHz or MiFare 13.56MHz)
- Uses 2 x 3V lithium batteries (included)
- L: 41 x D: 40mm

40262 Mechanical Cylinder 30/30mm\*



- Euro profile
- Brass nickel plated
- Direct replacement for existing cylinders
- Various lengths available from 30/30mm to 70/70mm

40271 Mechanical Cylinder 35/35mm\*

\*For the full range of lengths available see index page 31

40251 Thumb Turn



- Solid brass nickel
- Hard wearing
- For mechanical exit
- L: 20mm x D: 29.5mm

## Technical Tip

### AUTO-SECURE MORTICE LOCK

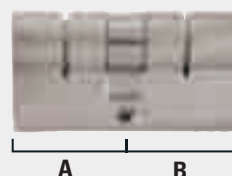
Typical installations are not fitted with auto-secure mortice locks. This is a feature that can be easily added to the door by changing out the mortice lock for a similar sized automatic locking unit.

### HOW TO MEASURE THE MECHANICAL CYLINDER

Due to the various Mechanical Cylinder lengths available, it is important to make sure you have the correct length when ordering.

**A** Measure from one end of the cylinder to the middle of the central screw (i.e. 30mm)

**B** Measure from the other end to the middle of the central screw (i.e. 35mm)



# Integrated

The ePAC Cylinder has in-built wireless capability that links to PAC controllers providing the option to control access to doors on larger integrated PAC systems. Using the Wireless Module, the ePAC Cylinder is fully compatible with PAC's access control solutions offering a reliable and cost effective add-on solution to existing PAC systems and an easy upgrade option from standalone.

## KEY FEATURES:

- Up to 75,000 keyholders when linked with SecureNet™ or EasiNet™ Residential
- Up to 1,100 keyholders when linked with iPAC™
- Low battery warning event log
- Service Card, Disassembly Card and Battery Card offers compatibility with more than one Electronic Cylinder
- Compatible with iPAC and PAC 500 Series controllers
- Wireless Module can be mounted typically up to 8m from the Electronic Cylinder (dependant on building environment)
- When used with PAC® access control software, the ePAC Cylinder offers full door control and monitoring, ie. keyholder information, time profiles, access groups, passage mode, door status and area management etc
- If communication is lost between the ePAC Cylinder and Wireless Module, the cylinder will automatically revert to standalone mode using the internally pre-programmed keyholder list
- No need to use software tools when pairing the ePAC Cylinder with the Wireless Module
- Encrypted communication between the ePAC Cylinder and Wireless Module for secure communication

### 40252 Wireless Module *(without Antenna)*



- DIN rail fitting
- 8-20V DC
- Simple one-touch, one to one pairing with ePAC Cylinder
- Simple to wire and powered by PAC 512 controllers
- H: 65 x W: 50 x D: 40mm

### Typical Integrated Wireless Solution



## ACCESSORIES

### 40250 KeyPAC Programming Card Set

### 40313 MiFare Programming Card Set



Includes:

- Service Card
- Disassembly Card
- Battery Card

**One recommended per system**

### 40257 Battery Change Tool for Cylinder housing *(pack of 5)*



**One recommended per system**

### 40253 Antenna 868 SMA Type-1, Short

- For use with Wireless Module
- Range up to 8m



### 40254 Antenna 868 SMA Type-1, Long

- For use with Wireless Module
- Range up to 20m



### 40256 External Power Adapter for Electronic Cylinder

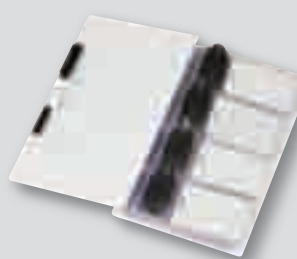
- For use if batteries are exhausted



**One recommended per system**

### 20019 KeyPAC ID Wallet

- 10 KeyPAC tokens with 10 shadow cards



### 20018 KeyPAC ID Wallet

- 10 KeyPAC cards with 10 shadow cards



**Recommended for use with standalone systems**

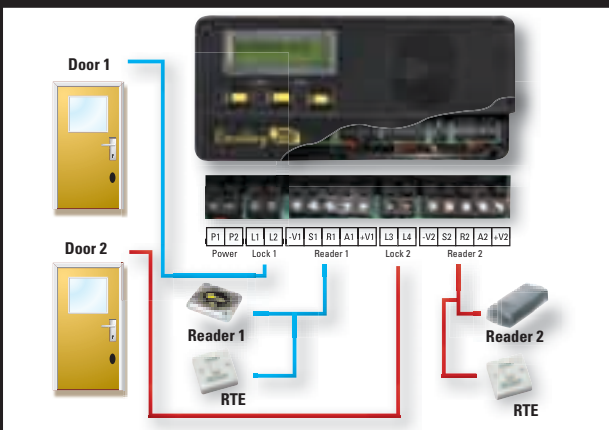
# Easikey<sup>®</sup> 250

Easikey 250 is a simple to use, standalone door controller. The new, improved design allows access to one or two doors for up to 250 users, or up to 500 when paired. Compatible with the OneproX™ reader range, Easikey 250 is a cost effective solution suitable for small scale applications such as tenanted buildings and small commercial offices, providing easy to manage access control.



#### KEY FEATURES:

- “Out of the box” standalone access control solution designed for one or two doors
- Up to 250 Keyholders or 500 when paired
- Up to 3 Master keys for fast and easy programming
- Fail safe and fail secure option with lock time settings
- 3 simple access levels; Door 1 only, Door 2 only or Door 1 & 2
- Reads both PAC (153KHz) and KeyPAC (125KHz) proximity technology
- Built-in OneproX™ administration reader
- Backlit, alphanumeric LCD display with simple instructions
- Displays the last 5 users, providing user and door information
- Direct upgrade option from Easikey 99 (same plastic profile)
- Database copy facility available for simple database transfer from an Easikey 99 and from an Easikey 250
- Dual controller option available, will pair with an Easikey 99 or an Easikey 250
- Buzzer/sounder options
- Battery backup facility
- Multi Language Support
- 5 year warranty



#### 22370 Unboxed Easikey 250 Controller



- Detachable back plate for ease of installation
- H: 90 x W: 198 x D: 26mm

#### 22275 Boxed Easikey 250 Controller *(pre-wired controller in a metal case without cut-out & with 3.0 Amp PSU)*



- Pre-wired for easy installation
- Secure, lockable enclosed box
- H: 420 x W: 350 x D: 100mm

#### 22277 Boxed Easikey 250 Controller *(pre-wired controller in a metal case with cut-out & 3.0 Amp PSU)*



- Pre-wired for easy installation
- Cut-out enclosure for easy administration
- Secure, lockable box
- H: 406 x W: 255 x D: 72mm

#### ACCESSORIES

- 11240 Easikey Power Supply (3.0 Amp), *see page 9*

#### Technical Tip

##### UPGRADE FROM EASIKEY 99

Easikey 250 offers the opportunity to simply upgrade from Easikey 99. The new, improved controller is designed on the same plastic profile as the Easikey 99 and offers additional Keyholders, an LCD display with simple instructions and an easy to operate user interface. Easikey 250 retains the ability to dual control with either an Easikey 99 or Easikey 250 unit and with the quick and easy database copy facility provides a simple and cost effective upgrade solution.

*PAC recommend updating the power supply when upgrading from Easikey 99 to Easikey 250 (part number 11240).*



# Easikey® 1000

Easikey 1000

Easikey 1000 is a simple and easy access control standalone system that controls up to two doors (two readers). Installation is fast and simple and provides an economical solution for small scale access control applications with up to 1,000 users. Easikey 1000 has the ability to handle up to 8 time profiles and the facility to connect to a serial printer as standard for easy reporting.

## FEATURES:

- Up to 1,000 users
- Compatible with Oneprox™ readers
- Built-in administration reader
- PAC (153KHz) proximity technology
- Alarm relays and door monitoring
- Can be integrated into PAC EasiNet Residential software
- Up to 8 time profiles
- Printer facility
- 5 year warranty



## 7 Technical Tip

### DOOR MONITORING ALARMS

It is possible to monitor a door through a door contact switch which enables the system to generate the following alarms:

- **Unauthorised Access Alarms.** These are generated when a door is opened without a valid key being presented or a request to exit signal being received.
- **Door Left Open Warnings.** These are generated when the door is held open for longer than the door open time. It should be noted that the door open time starts after the lock release time has expired.

### 21446 Unboxed Easikey 1000 Controller

*(includes alarm monitoring)*



- Supplied on metal backplate for ease of installation
- H: 225 x W: 150 x D: 55mm

### 21448 Boxed Easikey 1000 Controller

*(pre-wired controller in a metal case without cut-out & with 3.0 Amp PSU)*



- Pre-wired for easy installation
- Secure, lockable enclosed box
- H: 420 x W: 350 x D: 100mm

### 21452 Boxed Easikey 1000 Controller

*(pre-wired controller in a metal case with cut-out & 3.0 Amp PSU)*



- Pre-wired for easy installation
- Cut-out enclosure for easy administration
- Secure, lockable box
- H: 406 x W: 255 x D: 72mm

## ACCESSORIES

### Easikey 1000 Metal Enclosures

21458

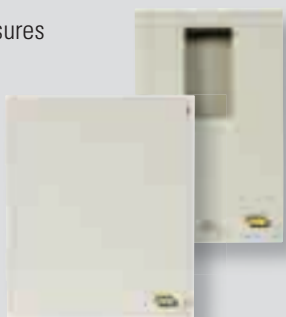
With cut-out

- H: 406 x W: 255 x D: 72mm

21459

Without cut-out

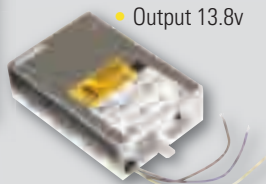
- H: 420 x W: 350 x D: 100mm



11240

### Easikey Power Supply (3.0Amp)

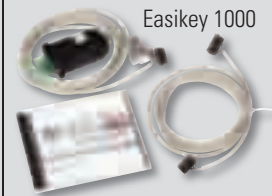
- Flying lead connections
- Input 180 - 264v
- Output 13.8v



21408

### PAC Easikey 1000 Upload Kit

- Upload database from Easikey 1000





The flexibility to install without a PC...



with the ability to administer multiple sites and doors, whenever and wherever you need to.

Control your world, your way.



Up to 16 doors when you combine the iPAC with up to 7 PAC 512 controllers

iPAC FEATURES	
Number of Doors	2
Number of Keyholders	1,100
Number of Operators	100
Number of Time Profiles	8
Event log capacity	10,000 Events
Built-in Web Browser - no specialist software required	✓
DDA Compliant Features - extended door opening time	✓
Operating System	Microsoft Windows® CE
Built-in Oneprox™ Administration Reader	✓
Built-in Colour Screen	✓
Multiple Language Support	✓
SYSTEM EXPANSION	
Compatible with PAC 512 controllers	✓
Maximum Number of Doors (linked to 7 x PAC 512 controllers)	16
Backward compatible with PAC Easikey 1000	✓
Compatible with PAC EasiNet Residential	✓
Upgrade path to PAC SecureNet	✓
Unlimited remote access via Web Browser	✓
Compatible with all PAC Readers and ID Devices	✓

## iPAC Web Browser

The built-in web browser gives authorised users access to the iPAC access control system at any time via the internet. The web browser is the ideal solution for reliable and secure remote administration including, Alarm Management, Event Logs and Door Configuration. For simple set up you only need the web address [http://\[ipaddress\]/login.asp](http://[ipaddress]/login.asp) and the iPAC's IP address, found in Network Settings in the iPAC's main menu.

### SIMPLE AND EASY TO ADMINISTER MULTIPLE SITES



**20245** iPAC Access Controller – DIN Mount



- Supplied on a DIN rail for ease of installation
- H: 125 x W: 180 x D: 60mm

**20246** iPAC Access Controller Boxed

*(pre-wired controller in a metal case without cut-out & with 3.0 Amp PSU)*



- Pre-wired for easy installation
- Secure, lockable enclosed box
- H: 335 x W: 335 x D: 90mm

**20247** iPAC Access Controller Boxed

*(pre-wired controller in a metal case with cut-out & 3.0 Amp PSU)*



- Pre-wired for easy installation
- Cut-out enclosure for easy administration
- Secure, lockable box
- H: 500 x W: 420 x D: 250mm

**20252** iPAC Access Controller Boxed

*(pre-wired controller in a Sarel cabinet with 3.0 Amp PSU)*



- Pre-wired for easy installation
- Secure, lockable Sarel enclosed box
- H: 420 x W: 250 x D: 500mm

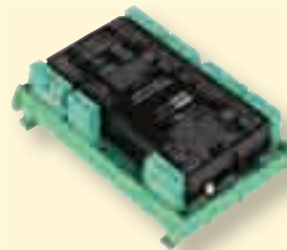
**20253** iPAC Access Controller Boxed

*(pre-wired controller in a Sarel cabinet with GSM modem)*



- Supplied with GSM modem kit, low profile aerial and 3.0 Amp PSU
- For use as an Easikey 1000N replacement
- Pre-wired for easy installation
- Secure, lockable Sarel enclosed box
- H: 500 x W: 420 x D: 250mm

**20055** PAC 512 Access Controller – DIN Mount



- 2 door controller
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 125 x W: 180 x D: 60mm

**20054** PAC 512 Access Controller Boxed

*(pre-wired controller in a metal case with 3.0 Amp PSU)*



- 2 door controller
- Pre-wired for easy installation
- Secure, lockable enclosed box
- 3.0 Amp PSU with Battery Charger
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 335 x W: 335 x D: 90mm

**7 Technical Tip**

Leave the USB stick (provided with each iPAC) in the unit for daily data backups. The USB stick also acts as a database upload facility.

See page 28 for more Technical Tips

**ACCESSORIES**

DIN Rail Enclosures

- Secure, lockable enclosed box

**10032** 6-way

- H: 700 x W: 500 x D: 90mm

**10031** 4-way

- H: 520 x W: 500 x D: 90mm



DIN Rail Power Supplies

**22008**

- Dual Voltage 12/24V DC at up to 7.2 Amp
- With Battery Charger

**22059**

- Dual Voltage 12/24V DC at up to 3.0 Amp Voltage
- With Battery Charger



# You said you loved PAC SecureNet™ but could we make it easier to specify...



## Well, we listened!



### Introducing the new cost effective and simpler way of specifying PAC SecureNet™

SecureNet's integrated security solution is reliable, scalable and can be adapted to suit every access control installation be they single site businesses or global organisations.

### Now there's no need to add multiple licence keys

Simply choose from four versions that meet your requirements and should your business needs change simply upgrade to the most suitable software platform.



#### PAC SecureNet supports Microsoft®:

- Windows 7 Professional
- Windows 7 Enterprise
- Windows 7 Ultimate
- Windows XP Professional (SP3)
- Windows Vista Ultimate
- Windows Vista Business
- Windows Vista Enterprise
- SQL Server 2005
- SQL Server 2003 (SP2)
- SQL Server 2003 (R2)
- SQL Server 2008 (R2)
- SQL Server 2008 (SP2 recommended)

*PAC now supports 32 and 64 bit editions of Microsoft Windows Platforms*

	LT	Standard	Advanced	Professional
Keyholders/Cardholders	5,000	25,000	50,000	75,000
Doors	128	250	750	2,000
Operators	10	25	50	100
Access Groups	200	1,000	2,000	5,000
Holiday Profiles (20 per profile)	2	5	10	10
Time Profiles	20	20	100	2,000
Client PCs	2	5	10	15
Alarm Workstations	0	2	4	8
Lifts/Elevators Supported*	0	0	20	100
Master Points*	0	0	10	100
Organisational Units	5	25	50	100
PAC 500 Channels	0	100	250	500
PAC 2100/2200 Controllers	0	0	50	750
Direct Channels	50	50	50	100
Dial up Channels	10	100	250	750
Event To Action Manager	x	✓	✓	✓
Remote Event To Action	x	x	✓	✓
Area Management	x	✓	✓	✓
Alarm Management	x	✓	✓	✓
CCTV Integration Support*	x	x	✓	✓
Event Archiving	✓	✓	✓	✓
Audit Trail	✓	✓	✓	✓
TCP/IP Channel Support	✓	✓	✓	✓
Area Mode Profiles	x	✓	✓	✓
Door Mode Profiles	✓	✓	✓	✓
Reader Mode Profiles	✓	✓	✓	✓
PAC 512 Support	✓	✓	✓	✓
PAC 520/530 Support	x	✓	✓	✓
Offline Channels	✓	✓	✓	✓
Badge Designer	✓	✓	✓	✓
Keyholder PIN for Dual Verification	✓	✓	✓	✓
Token Formats (3rd party support)	x	x	✓	✓
Visual Verification	x	x	✓	✓
Global Timezones	✓	✓	✓	✓
Access Options	✓	x	x	x
Local Anti-passback	✓	✓	✓	✓

\*contact Customer Services for equipment compatibility



## ➔ Additional Features

- Based on Microsoft.NET™ technology that is secure, easy to set up and requires minimal training
- Database support for Microsoft SQL Server Express 2005, SQL Server Express 2008 R2 (SP1), SQL Server 2005 (SP3), SQL Server 2008 (SP2) and SQL Server 2008 R2
- Multi-language support
- Individual door access times (DDA requirement)
- Customisable operator privilege templates
- Evacuation / Muster reports
- Audit trail
- Photo ID badge creator and printing support
- Graphical map support providing interactive alarm and event icons
- Lift control
- Event-to-action with powerful cause and effect programming tools
- Import / export facility
- User configurable Crystal™ reports, with the ability to save and share reports between operators
- Event archiving
- Axis® Internet Protocol (IP) camera infrastructure support
- Dedicated Micros (DVR) support (Sprite 2)
- Magstripe card encoding
- Comprehensive online help system
- Legacy support - PAC 2100/2200 controllers
- Free technical support from PAC to help with any installation or operational questions



21922

### **PAC** SecureNet™ LT

Key features include 128 Doors, 5,000 Keyholders, 10 Operators, 200 Access Groups, 2 Client PCs, PAC 512 Support, Event Archiving, Badge Designer

21923

### **PAC** SecureNet™ SE

Key features based on Lite Edition with 250 Doors, 25,000 Keyholders, 25 Operators, 1,000 Access Groups, 5 Client PCs, PAC 500, 520, 530 Support, Alarm Management

21924

### **PAC** SecureNet™ ADV

Key features based on Standard Edition with 750 Doors, 50,000 Keyholders, 50 Operators, 2,000 Access Groups, 10 Client PCs, Lift Control, 2100/2200 Controller Support, CCTV Integration, Muster Stations

21925

### **PAC** SecureNet™ PRO

Key features based on Advanced Edition with 2,000 Doors, 75,000 Keyholders, 100 Operators, 5,000 Access Groups, 15 Client PCs

## Simple System Configuration using PC Interface

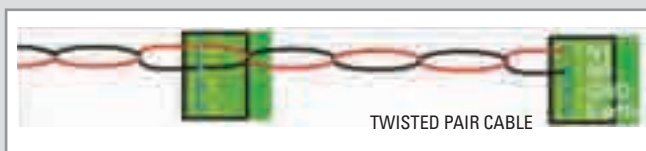


### RS-485

There are many misconceptions about how RS-485 should be connected and this can lead to incorrect installations. RS-485 cabling must be a daisy chain format using a twisted pair cable. If the daisy chain format is not followed you run the risk of signal reflections that will result in intermittent or permanent loss of communications at one or more node.

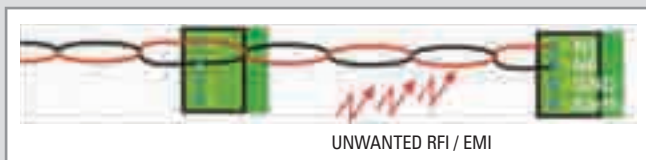
Correctly installing a system using RS-485 will remove the cost of multiple call outs and the cost of reconfiguring the network to resolve problems.

### RS-485 Noise Rejection

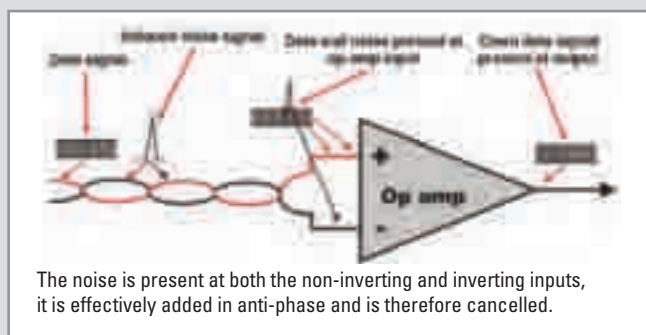


In twisted pair cable signal transmission, the data signal is applied to one conductor in a pair. The other conductor is used as a signal return path resulting in bi-directional signals that have no effect on each other.

In the case of unwanted RFI / EMI, both conductors are evenly exposed to the interfering signals and therefore equal amounts of noise are induced in both conductors. As a result, the induced noise signals travel in the same direction along both conductors which produces an opposing field around each conductor and these fields tend to cancel each other out.



Each PAC 500 Series controller contains a RS-485 receiver that offers further noise immunity from unwanted RFI / EMI. This receiver mixes any induced noise signals in opposite phases, cancelling them out and leaving only the clean data signal present at the output. See below diagram.



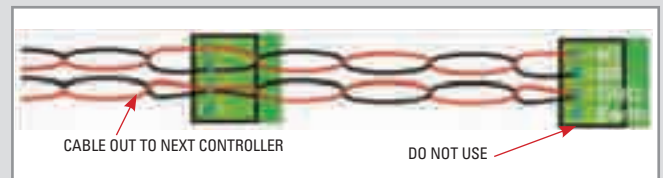
The noise is present at both the non-inverting and inverting inputs, it is effectively added in anti-phase and is therefore cancelled.

### RS-485 Connection

The RS-485 connection used in the PAC 500 Series controllers is a two wire data communication Bus with a third wire used to create a common connection (0V) between each controller.

Only three cores are required for connection. Note the parallel connecting of the two cores for the 0V (NGND) conductor. This arrangement reduces the resistance of the 0V line, resulting in improved system performance.

To ensure reliable performance of the RS-485 Bus, PAC recommend using CAT 5 unshielded twisted pair cable (UTP) for normal installations or screened twisted pair cable (STP) in harsh environments (RFI/EMI).



*Warning: The higher cable capacitance inherent in STP will have a filtering effect on the data resulting in possible corruption. To overcome this effect, the maximum length of the RS-485 Bus must be limited to 500m where STP is used.*

RS-485 should never be connected using standard 0.22mm alarm cable as this has no RFI immunity. However, where PAC 512 door controllers are being used to replace existing 2100/2200 door controllers, it may prove convenient to use the existing six wire bus cable. In such cases, this must be a daisy chain connection with no star connections and the maximum length cannot exceed 500m.

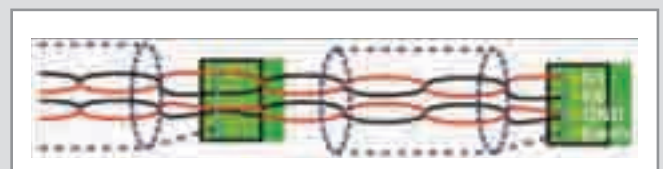
*Note that where alarm cable is used, PAC cannot guarantee reliable RS-485 Bus communications – it will depend entirely on the levels of environmental noise.*



When CAT 5 unshielded twisted pair is used, RFI / EMI is rejected by a combination of both the electromagnetic effects within the twisted pair cable and the action of the differential input amplifiers in each controller. There is a maximum cable length of 1km between each controller.

When CAT 5 unshielded twisted pair is used, the maximum length of the RS-485 bus is 1km.

To prevent the creation of ground loops the shield in each cable segment should only be connected to earth at one end. See below diagram.

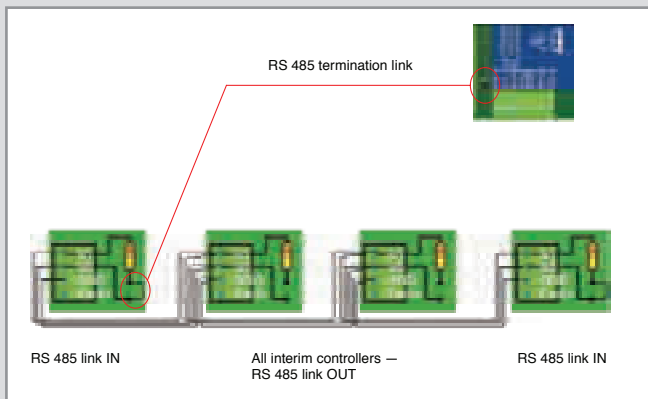
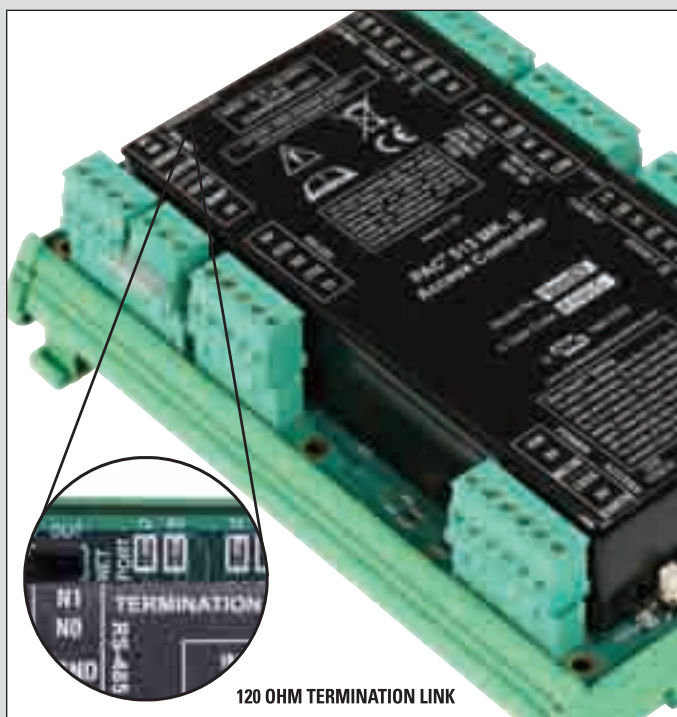


## RS-485 Termination

The RS-485 Bus used in the PAC 500 Series controllers is designed to be a daisy chain. It is essential that both ends of the RS-485 Bus is terminated with a 120 Ohm resistance if reflections are to be avoided. To accommodate this, all PAC 500 Series controllers come with a link which is located next to the RS-485 connector, see illustration opposite.

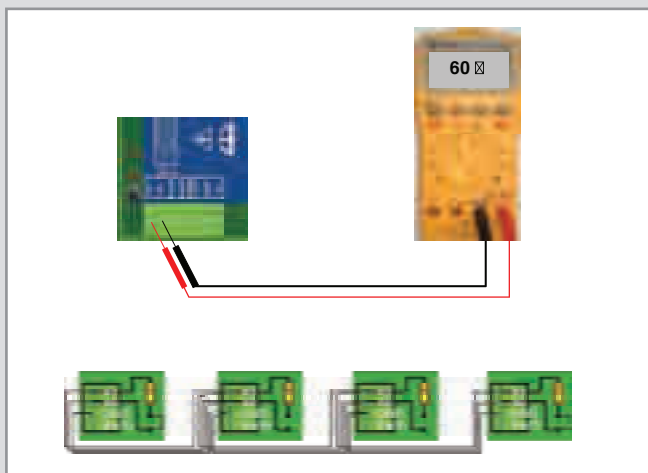
*For correct and reliable operation, the links on the first and last controllers must be in the 'IN' position, the links on all other controllers must be in the 'OUT' position.*

To determine whether there are two terminations on a RS-485 network a multimeter can be used. Placing a multimeter set to the resistance range across terminals N0 and N1 on the bus should result in a reading of around 60 Ohms. A reading of 120 Ohms indicates only one termination resistor. A constantly fluctuating reading or >100 kOhms indicates there are no termination resistors. A reading of <60 Ohms indicates more than two resistors or a fault in the cable.



*The reading of 60 Ohms only confirms two resistors on the bus and does not confirm they are located at the ends. If investigating the cause of intermittent or permanent controller communications problems, it will be necessary to visually verify that the terminations are at the ends of the RS-485 data bus.*

*It is possible to apply the resistance check to the data bus whilst the bus is 'live' however, this may interrupt the data on the bus and possibly result in alarm events being generated.*



## Troubleshooting Guide

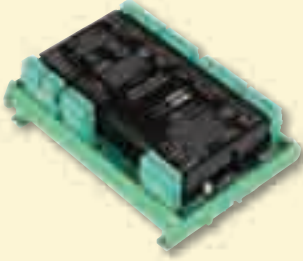
When faced with a RS-485 network that is suffering from communications failure, what can we do?

1. Check your wiring. Make certain that connections are configured correctly and that there are no crossed wires along the length of the bus.
2. Is it a daisy chain? It should be! If you have more than two conductors connected to any bus terminal, it isn't a daisy chain.
3. Is the bus correctly terminated at both ends as per instructions?
4. Are there any other termination resistors on the bus that shouldn't be there?
5. Are there any faults in the cable itself (ie. breaks or short circuits)?
6. A short circuit transceiver can bring the whole bus down so a sudden and complete failure could well be a faulty node. Disconnect each node in turn, waiting for a few seconds to give the nodes time to re-establish communications.
7. Does the cable run close to any high level sources of EMI? Re-route the cable and/or re-wire with shielded twisted pair cable.
8. Make certain that the bus connections do not introduce earth/ground loop currents.



# 500 Series Controllers

## 20055 PAC 512 Access Controller – DIN Mount



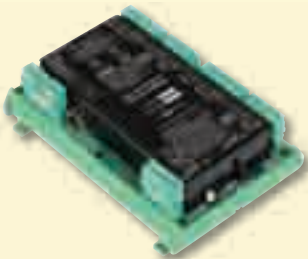
- 2 door controller
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 125 x W: 180 x D: 60mm

## 20054 PAC 512 Access Controller Boxed *(pre-wired controller in a metal case with 3.0 Amp PSU)*



- 2 door controller
- Pre-wired for easy installation
- Secure, lockable enclosed box
- 3.0 Amp PSU with Battery Charger
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 335 x W: 335 x D: 90mm

## 20155 PAC 512IP Access Controller – DIN Mount



- 2 door controller
- Built in 10/100 Mbps Ethernet connection
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 125 x W: 180 x D: 60mm

## 20154 PAC 512IP Access Controller Boxed *(pre-wired controller in a metal case with 3.0 Amp PSU)*



- 2 door controller
- Built in 10/100 Mbps Ethernet connection
- Pre-wired for easy installation
- Secure, lockable enclosed box
- 3.0 Amp PSU with Battery Charger
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 335 x W: 335 x D: 90mm

## 7 Technical Tip

### PAC 500 ACCESS AND ALARM SERVER

The PAC 500 Access and Alarm Server is an expandable controller that provides sophisticated access and alarm management. Embedded with Microsoft Windows® CE.Net operating system, the PAC 500 supports a countless number of access decisions, meshes multiple locations seamlessly, centralises management and provides industry-standard secure networking.

See page 28 for more Technical Tips

## 20233 PAC 500 Access and Alarm Server – DIN Mount



- Ethernet connection. RS-232 for backup communications and RS-485 for additional controller connection
- 10.5VDC @ 390mA to 28VDC @ 220mA
- H: 125 x W: 180 x D: 60mm

## 21056 PAC 500 Access and Alarm Server Boxed *(pre-wired controller in a metal case with 3.0 Amp PSU)*



- Pre-wired for easy installation
- Secure, lockable enclosed box
- Ethernet connection. RS-232 for backup communications and RS-485 for additional controller connection
- 10.5VDC @ 390mA to 28VDC @ 220mA
- H: 335 x W: 335 x D: 90mm

## 7 Technical Tip - Hardware

### RECOMMENDED MAXIMUM NUMBER OF CONTROLLERS

PAC 500 SERIES CONTROLLER	MAXIMUM NUMBER
PAC 500	48 on a single channel (24 on each bus)
PAC 512 via Direct Channel	31 additional (32 total)
PAC 512IP via TCP/IP Network	23 additional PAC 512 (24 total)
PAC 512 via Dial-Up Modem	23 additional (24 total)
PAC 512 via GSM Modem	11 additional PAC 500 Series (12 total)

See page 28 for more Technical Tips

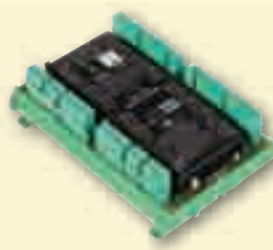


**20053** PAC 520 Input Controller – DIN Mount



- 20 software configurable alarm inputs (configurable via SecureNet)
- 2 x 2-Amp latching relay outputs (latched, momentary, toggling or pulsing)
- RS-485 communication port
- 10.5VDC @ 115mA to 28VDC @ 45mA
- H: 125 x W: 180 x D: 60mm

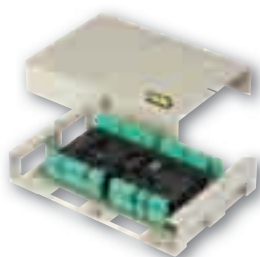
**20052** PAC 530 Output Controller – DIN Mount



- 2 software configurable alarm inputs (configurable via SecureNet)
- 10 x 2-Amp and 2 x 8-Amp latching relay outputs (latched, momentary, toggling or pulsing)
- RS-485 communication port
- 10.5VDC @ 60mA to 28VDC @ 30mA
- H: 125 x W: 180 x D: 60mm

**20051** PAC 520 Input Controller Boxed

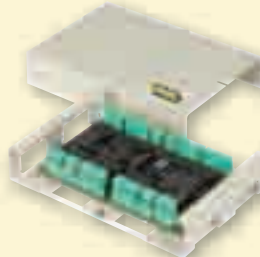
(in a metal case, no PSU)



- Screw tight enclosure
- 20 software configurable alarm inputs (configurable via SecureNet)
- 2 x 2-Amp latching relay outputs (latched, momentary, toggling or pulsing)
- RS-485 communication port
- 10.5VDC @ 115mA to 28VDC @ 45mA
- H: 220 x W: 150 x D: 40mm

**20050** PAC 530 Output Controller Boxed

(in a metal case, no PSU)



- Screw tight enclosure
- 2 software configurable alarm inputs (configurable via SecureNet)
- 10 x 2-Amp and 2 x 8-Amp latching relay outputs (latched, momentary, toggling or pulsing)
- RS-485 communication port
- 10.5VDC @ 60mA to 28VDC @ 30mA
- H: 220 x W: 150 x D: 40mm

**ACCESSORIES**

DIN Rail Enclosures

- Secure, lockable enclosed box

- 10032** 6-way
  - H: 700 x W: 500 x D: 90mm
- 10031** 4-way
  - H: 520 x W: 500 x D: 90mm



DIN Rail Power Supplies

- 22008**
  - Dual Voltage 12/24V DC at up to 7.2 Amp
  - With Battery Charger
- 22059**
  - Dual Voltage 12/24V DC at up to 3.0 Amp Voltage
  - With Battery Charger



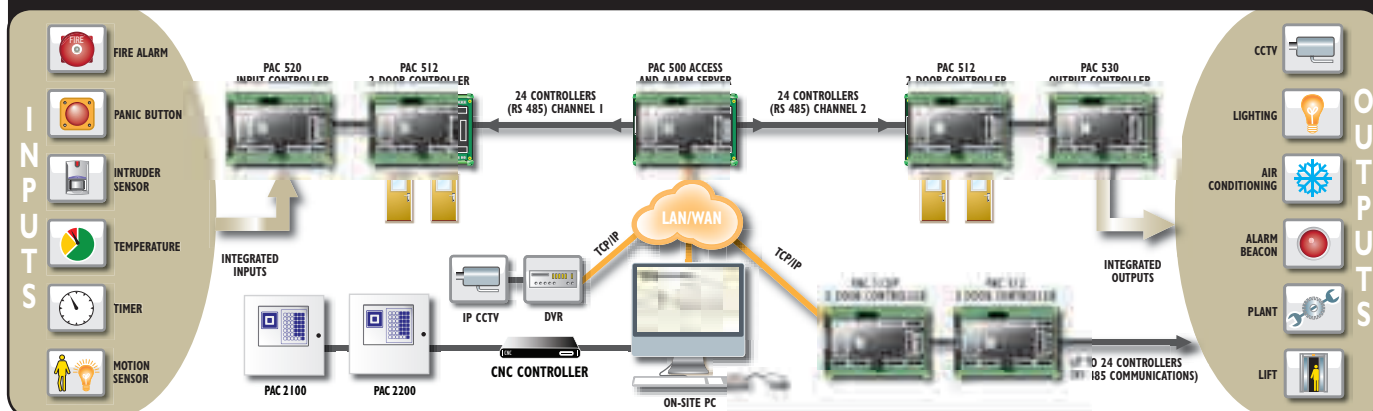
**7 Technical Tip - Software**

**EVENT TO ACTION**

- Event to Action allows us to link certain events within the access control system to specific actions. For example, the system could be set up so that if a keyholder tries to access an area they are not permitted, the Event to Action would result in an output relay activating which could cause a CCTV camera to move to a preset position and record the event.
- PAC SecureNet has the capability to send a text string (in the form of hex code) across an IP link. This function is enabled through the Event to Action feature and requires a PAC 500 Access and Alarm Server to administer all channels using the Event to Action feature.

See page 28 for more Technical Tips

**Typical Integrated System Configuration**



# PAC<sup>®</sup> Retrofit Kit

The PAC Retrofit Kit is a cost effective kit designed to aid and simplify upgrades from PAC for Windows<sup>®</sup> or PAC Vision<sup>®</sup> to PAC's latest integrated access control system, PAC SecureNet<sup>™</sup>. The Retrofit Kit allows for our PAC 2100 or 2200 controller to be replaced by one or two PAC 512 two door controllers, whilst retaining the existing cable infrastructure, enclosure and power supply, saving time and money on system upgrades.

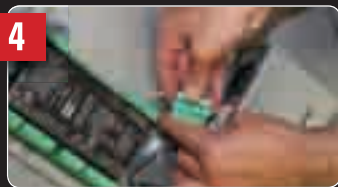
## Installing the Retrofit Kit in 5 Easy Steps...



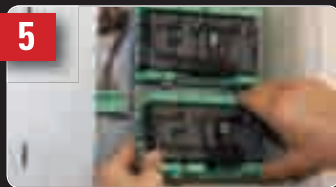
**1** Remove power & disconnect all terminal blocks from the 2000 Series controller

**2** Remove the existing chassis plate (with power supply & controller) from the enclosure

**3** Attach the existing power supply to the Retrofit chassis



**4** Connect the power adaptor to the plug of the power supply and secure



**5** Connect the 500 Series controllers, attach into enclosure, wire any readers, locks, controllers & PC channel comms as necessary

### KEY FEATURES:

- Helps simplify hardware upgrades from PAC for Windows or PAC Vision systems to PAC SecureNet
- Offers a cost effective, direct swap out for 2000 to 500 Series controllers
- Allows the existing cable infrastructure between controllers, readers, doors and locks to be retained providing greater time efficiencies\*
- Allows existing power supply and enclosure to be retained reducing upgrade costs

\* **Note:** RS-485 best practice rules apply. For recommended cable distances before installation, please refer to Technical Bulletin TB228 "Installation Best Practice" on the Knowledge Database at [www.stanleysecurityproducts.co.uk/support](http://www.stanleysecurityproducts.co.uk/support)

## 21753 Retrofit Kit - 2000 to 500 Series Controllers



### Supplied with:

- Steel chassis with two sets of mounting studs
- Power adaptor for connection to existing power supply
- 10A inline fuse
- Screws, washers and cable tie

## Upgrade to the latest version of



## PAC<sup>®</sup> for Windows<sup>®</sup> & PAC<sup>®</sup> VISION<sup>™</sup>

PAC for Windows and PAC Vision were designed to run on the older versions of Windows including 95<sup>™</sup>, 98<sup>™</sup>, 2000<sup>™</sup> and ME<sup>™</sup> which are no longer supported by Microsoft. It will not run on Microsoft operating systems newer than Windows 2000 so will not transfer onto a new PC. If the PC running PAC for Windows or PAC Vision fails, you could lose your database and in worst cases, be locked in or out of the buildings that you are trying to protect.

**PAC offer a support service that provides a safe and easy way to migrate an old database onto a new SecureNet PC. The PAC Technical Support team will carry out a FULL database migration<sup>†</sup> offering a safe and easy way to migrate all data.**

### Upgrade packages<sup>\*\*</sup>

**14906 Bronze Upgrade Package** - For sites with up to 500 users

**14907 Silver Upgrade Package** - For sites with up to 1,000 users

**14908 Gold Upgrade Package** - For sites with up to 1,500 users

The PAC Technical Support team also offer a site visit to help ensure the upgrade to SecureNet has successfully been implemented and assist in commissioning. The site visit<sup>†††</sup> includes:

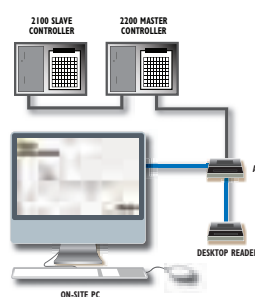
- Restoring the migrated database to the pre-installed SecureNet PC
- Testing the connection to and administration of the database
- Begin to connect hardware onto the system

**14905 Site Visit (1 day)**

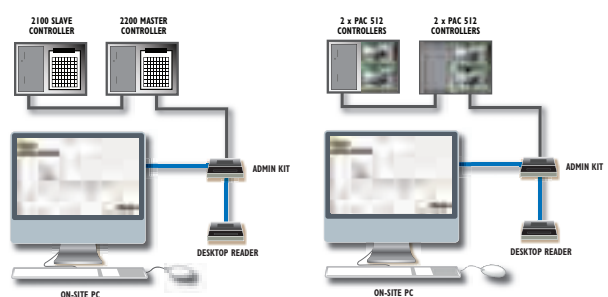
<sup>†</sup> A full database migration will be carried out where possible. Please note, some SecureNet features differ from PAC for Windows or PAC Vision <sup>††</sup> For sites with over 1,500 users please contact Customer Services <sup>†††</sup> Please refer to PAC's On-Site terms and conditions for further information

## Retrofit Kit

### Existing System



### Using a Retrofit Kit





PAC EasiNet Residential provides the ideal access control and security solution for multi-tenanted dwellings with flexible remote administration. The system is designed to be scalable so that as numbers of residents or buildings increase or decrease the system can adapt accordingly.

**FEATURES:**

- Up to 75,000 keyholders
- Up to 1,000 doors
- Support for up to 50 time/mode profiles
- Support for PSTN, GSM & TCP/IP connectivity
- Extra door opening time – DDA compliant feature
- Database backups to multiple drives
- Database support for Microsoft SQL Server 2003 (SP), SQL Server 2003 (R2), SQL Server 2008 (R2) and SQL Server 2008 (SP2 recommended)
- Enhanced reports
- User Help Wizard built in
- ID Badge designer for customisation of cards



**Technical Tip**

**RESIDENTIAL PAC 512 CONTROLLERS AND MODEM KITS**

Modem kits vary depending on the version of EasiNet Residential installed on site. The table below illustrates which parts are required per software version.

PAC 512 CONTROLLERS	EASINET RESIDENTIAL V2.6	EASINET RESIDENTIAL v3.1 or later
PAC 512 Access Controller in Sarel Cabinet	21057	21074
PAC 512 Access Controller in Sarel Cabinet with GSM Modem	21059	21076
PAC 512 Access Controller Boxed	21073	20054
PAC 512 Access Controller DIN Mount	21072	20055
PAC MODEM KITS		
PAC 512 GSM Modem Kit	21068	21077
Administration PC GSM Modem Kit	21078	21079

The software version number can be found on the login screen or alternatively within the Help menu: About... Product Version.

See page 28 for more Technical Tips

**Key Features**

	Residential	System Expansion
Keyholders / Cardholders	20,000	75,000
Doors	200	1,000
Operators	10	100
Client PCs	2	15
Dial up Channels	50	500
Direct Channels	50	-
Holiday Profiles (20 per profile)	2	-
Time Profiles	50	-
Organisational Units	-	-
Access Groups	20	5,000
User Defined Access Groups	x	-
PAC 512 / 202 Support	✓	-
PAC 2100 / 2200 Controller Support	✓	-
PAC Easikey 1000N Controller Support	✓	-
TCP / IP Channel Support	✓	-
Cos Data Switch Support	✓	-
Audit Trail	x	-
Event Archiving	x	-
Event Filtering	✓	-
Badge Designer	✓	-
Custom Operator Privileges	✓	-
Door Mode Profiles	✓	-
Reader Mode Profiles	✓	-
PSTN / GSM Channel Support	✓	-
Extra Door Opening Time	✓	-
Enhanced Reports	✓	-



52909

**EasiNet Residential Software**

Supplied with 200 doors, 50 dial up channels, 50 direct channels

**PAC EasiNet Residential supports Microsoft®:**

- Windows 7 Professional / Enterprise / Ultimate
  - Windows XP Professional (SP3)
  - Windows Vista Ultimate / Business / Enterprise
  - SQL Server 2005
  - SQL Server 2003 (SP2) / (R2)
  - SQL Server 2008 (R2) / (SP2 recommended)
- PAC now supports 32 and 64 bit editions of Microsoft Windows Platforms*

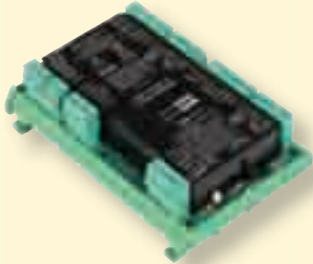
**Additional Licences**

- 13969 EasiNet Residential extra 10 door pack
- 13970 EasiNet Residential extra 50 door pack
- 13967 EasiNet Residential extra 10 dial-up channels
- 13968 EasiNet Residential extra 50 dial-up channels
- 13402 EasiNet Residential 500 Access Group upgrade
- 13086 EasiNet Residential 5,000 Keyholder upgrade
- 13114 EasiNet Residential 10 Operators upgrade
- 52910 Additional Client PC Upgrade

# PAC<sup>®</sup> 500 Series Controllers

## Residential PAC 512 Access Controller - DIN Mount

21072 **v2.6**      20055 **v3.1 or later**



- 2 door controller
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 125 x W: 180 x D: 60mm

## Residential PAC 512 Access Controller Boxed

*(pre-wired controller in a metal case with 3.0 Amp PSU)*

21073 **v2.6**      20054 **v3.1 or later**



- 2 door controller
- Pre-wired for easy installation
- Secure, lockable enclosed box
- 3.0 Amp PSU with Battery Charger
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 335 x W: 335 x D: 90mm

## Residential PAC 512 Access Controller Boxed

*(pre-wired controller in a Sarel Cabinet with 3.0 Amp PSU)*

21057 **v2.6**      21074 **v3.1 or later**



- 2 door controller
- Pre-wired for easy installation
- Secure, lockable Sarel enclosed box
- 3.0 Amp PSU with Battery Charger
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 500 x W: 420 x D: 250mm

### Technical Tip

#### RECOMMENDED MAXIMUM NUMBER OF CONTROLLERS

500 SERIES CONTROLLER	MAXIMUM NUMBER
PAC 512 via Direct Channel	31 additional (32 total)
PAC 512 via Dial-Up Modem	23 additional (24 total)
PAC 512IP via TCP/IP Network	23 additional PAC 512 (24 total)
PAC 512 via GSM Modem	11 additional PAC 500 Series (12 total)

See page 28 for more Technical Tips

## Residential PAC 512 Access Controller Boxed

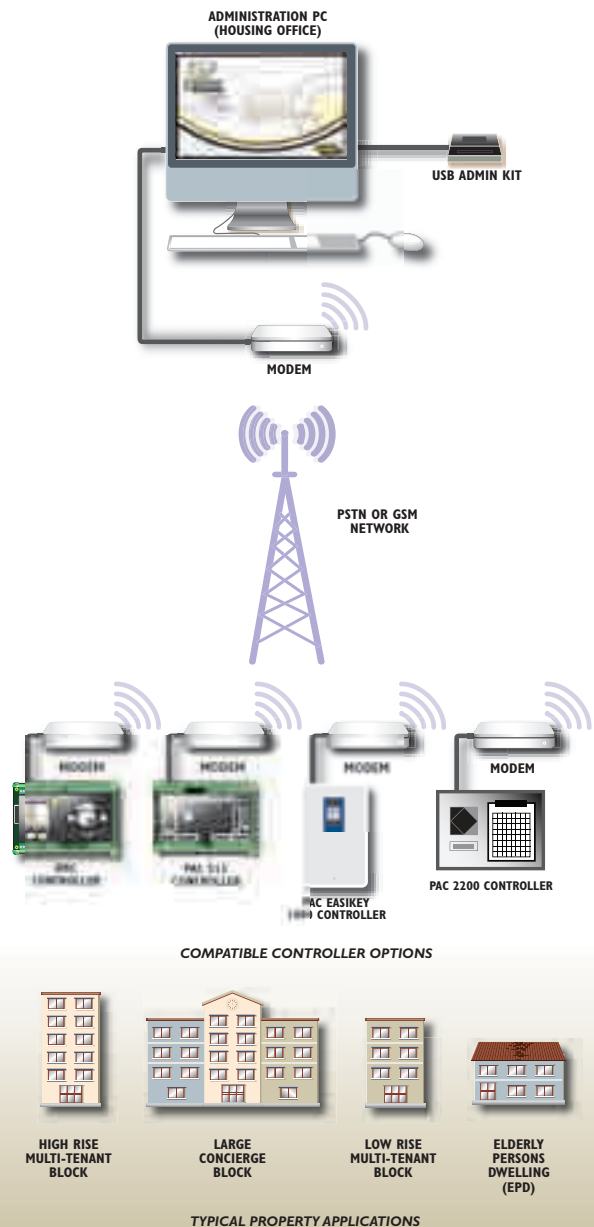
*(pre-wired controller in a Sarel cabinet with 3.0 Amp PSU and GSM Modem Kit)*

21059 **v2.6**      21076 **v3.1 or later**



- 2 door controller
- Supplied with GSM modem kit and low profile aerial
- Pre-wired for easy installation
- Secure, lockable Sarel enclosed box
- 3.0 Amp PSU with Battery Charger
- RS-485 and RS-232 communication ports
- 10.5VDC to 28VDC @ 220mA max
- H: 500 x W: 420 x D: 250mm

### TYPICAL EASINET RESIDENTIAL CONFIGURATION



# PAC<sup>®</sup> GSM Modem Kits

GSM modems can be used to reduce the complexity of managing multiple systems and sites even if they are spread over a large geographical area. GSM modems can be connected to PAC equipment for communications to a PC via a mobile telephone line with another GSM modem or a direct phone line at the PC end.



## PAC 512 GSM Modem Kit

21068 **v2.6**

21077 **v3.1 or later**



- Supplied with GSM modem, low profile aerial and PAC 512 serial cable
- For use with PAC 512 controllers

## PC GSM Modem Kit

21078 **v2.6**

21079 **v3.1 or later**



- Supplied with GSM modem, low profile aerial and GSM to PC modem lead
- For use with administration PC

GSM wireless service quality in any area may vary depending on such factors as network traffic, signal strength, weather and terrain. Since buildings may experience poor GSM signal strength, PAC recommend that a site survey be performed prior to any installation. PAC cannot be held responsible for any loss in GSM signal. There are certain events that may result in your GSM service provider suspending, restricting or disconnecting your data service. These events will be set out in the service provider's standard agreement.

## 40203 Low Profile GSM Aerial



- Fitted onto the controller cabinet
- Securely fitted and tamper resistant

## 40079 GSM Standard Modem Aerial



- Stub aerial with magnetic base
- Fitted onto the controller cabinet

## 40085 GSM High Gain Modem Aerial - 10m

## 40316 GSM High Gain Modem Aerial - 15m



- Suitable for poor signal areas
- 10m or 15m cable length

## 7 Technical Tip

**Low Profile Aerial:** Intended for mounting locally to the GSM, is less conspicuous and can be mounted using fixed screws and therefore can be used where controller cabinets are located in non secure areas.

**Standard Aerial:** This aerial is intended for mounting locally to the GSM modem (which is usually located externally to the door controller cabinet). The aerial has a magnetic base that allows it to be quickly (but not securely) fixed to the controller cabinet and is intended for cabinets that are located in a secure area

*Both aerials must be fixed to an earthed, metallic surface as they rely on the earth plane to increase the aerial gain. To use either of the above aerials a strong GSM signal is required, in most cases it may be advisable to use a high gain aerial and mount it externally to the building for best results.*

**High Gain Aerial:** Is intended for use in areas where the signal level is either weak or is prone to GSM signal strength variations. The aerial has a 10m or 15m cable enabling the installer to locate where the signal strength is greatest. Never install the aerial close to other electrical wiring or inside a metal enclosure.

**Note: Do not cut / resize the cable supplied with the aerials**

See page 29 for more Technical Tips

## ACCESSORIES

40082 GSM to PC Modem Lead



980 Yuasa 12V 7AmpH Battery



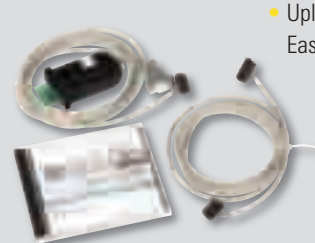
21408 PAC Easikey 1000 Upload Kit

- Upload database from Easikey 1000

40315 USB GSM Modem Kit PSU



914 External 56k PSTN Modem



PAC's Oneprox™ reader range offers a single card/token access solution for reading both PAC (153KHz) and KeyPAC (125KHz)



proximity technologies providing a versatile access control solution. The cost effective solution enables customers to transition from PAC to KeyPAC over time or to utilise both technologies in their facility.

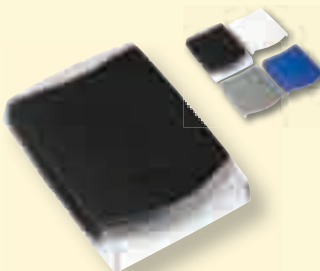


## 20067 Oneprox Designer Mullion Reader



- Up to 90mm reading range
- Four interchangeable coloured covers (black, grey, white or blue)
- DDA compliant feature – audiovisual indication
- H: 100 x W: 41 x D: 18mm

## 20068 Oneprox Designer Standard Reader



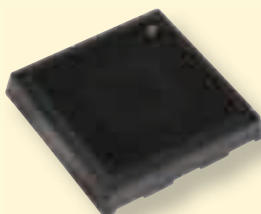
- Up to 180mm reading range
- Four interchangeable coloured covers (black, grey, white or blue)
- DDA compliant feature – audiovisual indication
- H: 114 x W: 87 x D: 23mm

## 20073 Oneprox Mullion Reader – Grey



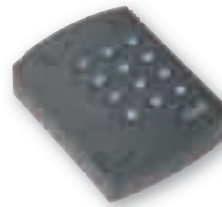
- Up to 60mm reading range
- H: 83 x W: 38 x D: 18mm

## 20478 Oneprox Standard Reader – Black



- Up to 230mm reading range
- Clip on decor cover
- Fits standard UK single gang backbox
- H: 86 x W: 86 x D: 15mm

## 20473 Oneprox Keypad/Proximity Reader – Dark Grey

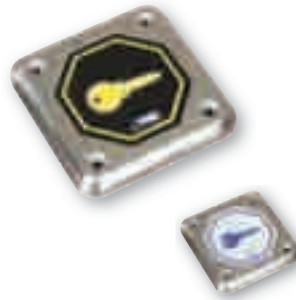


- Up to 120mm reading range
- Proximity only, PIN only or Proximity & PIN
- Audible sounder
- H: 106 x W: 82 x D: 28mm

## Oneprox DDA Vandal Reader – Stainless Steel

### 20424 Yellow and Black

### 20483 Blue and Grey

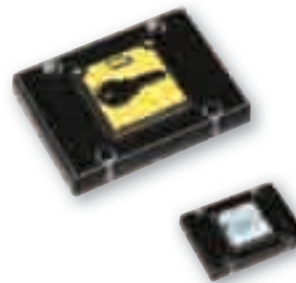


- Up to 60mm reading range
- Stainless steel vandal resistant case
- Audible sounder
- DDA compliant feature – audiovisual indication
- H: 100 x W: 100 x D: 14mm

## Oneprox DDA Panel Mount Reader

### 20042 Yellow and Black

### 20049 Blue and Grey



- Up to 35mm reading range
- DDA compliant feature – visual identification
- H: 83 x W: 60 x D: 16mm















### ACCESSORIES

- 1950** Screwdriver for Vandal Resistant Screws
- For use with 20424 and 20483



## 7 Technical Tip

### ONEPROX COMPATIBILITY

READER	OLD	NEW
Vandal	 <p>PAC Vandal    KeyPAC Vandal    Easikey Vandal</p>	 <p>Oneprox Vandal    Oneprox Vandal</p>
Panel	 <p>PAC Panel Mount    PAC Panel Mount</p>	 <p>Oneprox Panel Mount    Oneprox Panel Mount</p>
Mullion	 <p>PAC &amp; KeyPAC Slimline    KeyPAC &amp; Easikey Mullion    KeyPAC PX50</p>	 <p>Oneprox Mullion</p>
Standard	 <p>PAC Standard    KeyPAC Standard</p>	 <p>Oneprox Standard</p>
Designer	 <p>KeyPAC Designer Mullion    KeyPAC Designer Standard</p>	 <p>Oneprox Designer Mullion    Oneprox Designer Standard</p>
PIN	 <p>Flush Mount PIN    Surface Mount PIN</p>	 <p>Oneprox Proximity Keypad</p>
Admin Kit	 <p>PAC Admin Kit    KeyPAC Admin Kit</p>	 <p>Oneprox Admin Kit</p>

## 7 Technical Tip

### ONEPROX OUTPUT FORMAT

- Oneprox readers can be programmed to the listed output formats. PAC is the default output which incorporates the standard PAC protocol
- All Oneprox readers are IP66 rated. Installers must adequately seal any connections made with silicone after installation. PAC recommend a high quality sealant like Dow Corning type 732

**Note:** The Flush Mount & Surface Mount PIN readers only work with the 2000 Series Controllers. The Oneprox PIN only works with the 500 Series Controllers

### ONEPROX OUTPUT FORMAT AVAILABLE

PAC (default)  
Wiegand 26-bit  
Wiegand 34-bit  
Magstripe  
Barcode

### 40043 Magnetic Stripe Reader - Black



- Reads Lo-Co or Hi-Co magnetic stripe cards
- H: 140 x W: 33 x D: 50mm

# SMART™



The PAC Smart reader range uses contactless Mifare® technology (13.56MHz) and is readily compatible with PAC systems. All PAC Smart readers are interchangeable with existing PAC readers.

### 40192 Smart Standard Reader



- Visual & audible feedback
- H: 90 x W: 90 x D: 18mm

### 40194 Smart Mullion Reader



- Mullion style for direct architrave mounting
- Visual & audible feedback
- H: 140 x W: 45 x D: 32mm

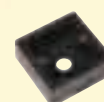


**40195**  
Backbox for Mullion Reader

### 40196 Smart PIN Reader



- Fits UK single gang backbox
- User PIN verification (PIN determined by card)
- 12 button illuminated keypad
- Visual & audible feedback
- H: 90 x W: 90 x D: 27mm



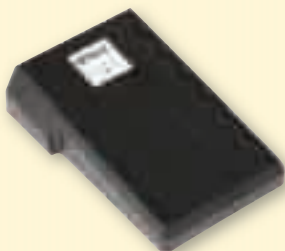
**40193**  
Backbox for PIN Reader

# Oneprox™ Administration & PC Interface Kits



The PAC Oneprox™ Administration & PC Interface Kits are designed to ease the task of enrolling keyholders. An enrolment desktop reader connects either by a USB connection or an interface kit to a serial port on the host administration PC and the ID device numbers are read directly into the database. The Administration & PC Interface Kits read both PAC (153KHz) and KeyPAC (125KHz) technologies and allow extended direct communications between the administration host PC and the most convenient PAC 512 access controller which can be located up to 1,000m away.

## 20762 Oneprox Desktop Reader (USB PC connection)



- Up to 30mm reading range

## 20763 Oneprox Office Administration Kit (USB PC connection)



- Up to 30mm reading range
- Supplied with PAC 512 Line Driver

## 21533 Oneprox Office Administration Kit (Serial Port)



- Up to 30mm reading range
- Supplied with Oneprox Desktop Reader, PAC 512 Line Driver, 12 VDC Power Supply, PC Serial Cable (9-Pin)

## 21534 PC Interface Kit with Wiegand Interface (Serial Port)



- Supplied with Wiegand Interface unit, PAC 512 Line Driver, 12 VDC Power Supply, PC Serial Cable (9-Pin)

## 21543 PC Interface Kit without Reader (Serial Port)



- Supplied with PAC 512 Line Driver, 12 VDC Power Supply, PC Serial Cable (9-Pin)

### ACCESSORIES

#### 480130000 USB to RS-232 Converter Lead

- For use with Serial Port Administration and PC Interface Kits.

### 7 Technical Tip

In most cases, only one PC Interface Kit is required per PC. However, two can be used. The first kit is used for key administration and may be a USB or Serial PC Interface kit. The second kit is used merely as a Line Driver to extend the distance between the PC and Controller and **MUST** be a Serial PC Interface Kit.



## STANLEY<sup>®</sup> Tokens

21087 Black

- Uses PAC (153KHz) proximity technology
- Easy to use, non contact proximity door reader technology
- Each token has a unique ID code
- Fits easily onto a keyring
- Durable and robust
- H: 60 x W: 33 x D: 6mm



21081 Red



21082 Green



21083 Blue



21084 Yellow



21085 Orange



21086 Purple



## PAC<sup>®</sup> Tokens

- Uses PAC (153KHz) proximity technology
- Easy to use, non contact proximity door reader technology
- Each token has a unique ID code
- Fits easily onto a keyring
- Durable & robust
- Coloured clips available for easy recognition
- H: 62 x W: 28 x D: 5.5mm



21020 PAC Token

- Black with PAC logo clip



20204 PAC Token

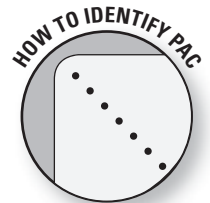
- Black without PAC logo clip



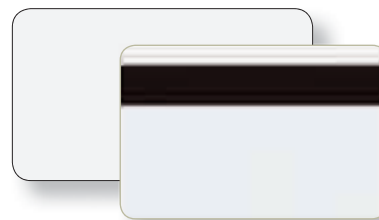
For Clips see  
Accessories  
page 26

## PAC<sup>®</sup> ISO Proximity Cards

- Uses PAC (153KHz) proximity technology
- Durable & robust
- Offers a unique ID code
- Meets ISO standards for thickness
- Can be used with all direct image or thermal transfer printers
- Design your own card layout using Badge Designer in SecureNet or EasiNet Residential
- H: 54 x W: 86 x D: 0.76mm



21039 PAC ISO Proximity Card x 10



21041

PAC ISO Proximity Card with Magstripe - not encoded x 10

21039/1.00 PAC ISO Proximity Card - punched long edge x 10

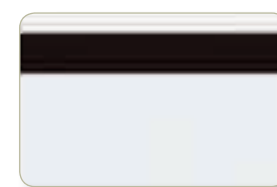
21039/2.00 PAC ISO Proximity Card - punched short edge x 10

21039/11.00 PAC ISO Proximity Card - punched both edges x 10

## PAC<sup>®</sup> Magnetic Stripe Cards

40033 PAC Magnetic stripe hi-co card - coded

- Durable & robust
- Offers a unique ID code
- Meets ISO standards for thickness
- Can be used with all direct image or thermal transfer printers
- Design your own card layout using Badge Designer in SecureNet or EasiNet Residential
- H: 54 x W: 86 x D: 0.76mm



## KeyPAC<sup>®</sup> Tokens

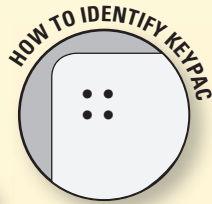
20250 KeyPAC Token



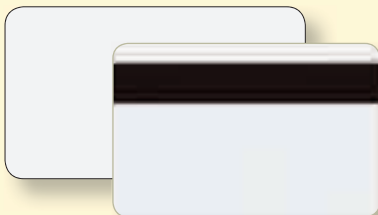
- Uses KeyPAC (125KHz) proximity technology
- Easy to use, non contact proximity door reader technology
- Each token has a unique ID code
- Fits easily onto a keyring
- Durable & robust
- H: 61 x W: 31 x D: 9mm

## KeyPAC® ISO Proximity Cards

- Uses KeyPAC (125KHz) proximity technology
- Durable & robust
- Offers a unique ID code
- Meets ISO standards for thickness
- Can be used with all direct image or thermal transfer printers
- Design your own card layout using Badge Designer in SecureNet or EasiNet Residential
- H: 54 x W: 86 x D: 0.76mm



**21030** KeyPAC ISO Proximity Card



**21031**

KeyPAC ISO Proximity Card with Magstripe - not encoded

**21030/11.00** KeyPAC ISO Proximity Card - punched long edge x 10

**21030/10.00** KeyPAC ISO Proximity Card - punched short edge x 10

### 7 Technical Tip

#### READER AND ID COMPATIBILITY

READER	ID COMPATIBILITY	READER	ID COMPATIBILITY
Oneprox	Stanley, PAC and KeyPAC tokens and cards	KeyPAC	KeyPAC tokens and cards
PAC	Stanley and PAC tokens and cards	Smart	PAC Smart cards
Easikey	Stanley and PAC tokens and cards	Magstripe	PAC Magnetic Stripe cards

## PAC® Smart Card

**40090** Smart Cards



- Uses MiFare® (13.56MHz) proximity technology
- Durable & robust
- Offers a unique ID code
- Meets ISO standards for thickness
- Can be used with all direct image or thermal transfer printers
- Design your own card layout using Badge Designer in SecureNet or EasiNet Residential
- H: 54 x W: 86 x D: 0.76mm

## Accessories

- Coloured Clips (x 10) for PAC Token (20204)

**40101** Red



**40102** Green



**40103** Blue



**40104** Yellow



**40105** White



**40106** Black



**40108** Orange



**40109** Turquoise



**40204** Brown



**40205** Pink



**40206** Purple



**40068** Heavy Duty Badge Reel



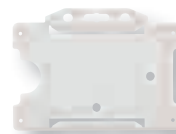
**40030** Clip for Card Holder - Chrome



**40029** 30" Silver Chain for tokens or cards



**40067** Rigid Card Holder



- Clear
- Landscape

**40027** Flexible Card Holder



- Grey
- Landscape

**10377** Self Adhesive Laminate for Card Printing



# Customer Services, Training and Support

## Customer Services

**The Customer Services Team are committed to providing a first class service. We understand how important it is to handle your day to day requirements with speed and efficiency. Please do not hesitate to contact us if there is anything we can do to help you.**



### Systems Design Support

Many of our customers need assistance with putting together a system design or meeting a customer specification. We have staff that are fully trained in system design and producing specifications and drawings that help architects, systems specifiers, design consultants and installers.

## Technical Support

**The PAC Technical Support team are highly skilled in answering any questions you have in relation to our products. We have specialist skills in communication and IT related areas and are able to provide supporting documentation.**

### • Remote Dial-In Support

PAC offer a remote dial-in service which gives you direct access to skilled engineers and enables us to see your system software in a real time environment. The remote control software and hardware requirements will need to be discussed prior to attending site and involvement from end user IT personnel may be required.

### • On-Site Support Services

Designed with the installer in mind, PAC provide on-site services including commissioning and system upgrades. The Technical Support team are trained to the highest standard on PAC hardware, software, PC operating systems and IT networks. Our engineers will work closely with you on site and will help in providing an easy hand over to your customer.

### • Product Knowledge Database

A searchable knowledge base including technical bulletins, manuals and frequently asked questions is available at [www.stanleysecurityproducts.co.uk/support](http://www.stanleysecurityproducts.co.uk/support)

## Training

**PAC is committed to training and supporting both the installation engineer and the end user. To this end we provide a full range of training courses for all of our products. Courses have full supporting documentation, include high levels of practical work and may be tailored to suit individual client needs. We have purpose-built training facilities or can train at customer's premises.**

### • Installer Courses – System Installation, Commissioning and Administration Courses

These courses are aimed at qualified installation/commissioning security systems engineers requiring specific knowledge and understanding of PAC access control hardware and administration software. No previous knowledge of PAC product is necessary to attend these courses.

### • Advanced Courses

Advanced courses are normally 1 day and cover specific hardware/software functionality that is not covered on the installer courses. Attendance of the installer courses is a pre-requisite to any advanced courses.

### • Tailor Made Courses

Any of the listed Installer Courses may be tailored to suit the needs of an individual installation company. However, to be viable, any course requires a minimum of two attendees.

### • End User Courses

These courses are aimed at those who administer PAC access control systems. Because each end user employs different hardware/software features, these courses are bespoke and are tailored to the needs of a particular user. No previous knowledge of PAC product is necessary, although attendees are expected to have a fundamental understanding of PC technology and Microsoft® Windows operating systems.

### • E-Learning

In addition to the standard methods of training we have an extensive range of E-learning modules that have been designed for those who wish to have the flexibility of choosing where and when to run the training which are available at [www.stanleysecurityproducts.co.uk/support](http://www.stanleysecurityproducts.co.uk/support)

#### Customer Services

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Fax: +44 (0)161 406 8984

Email: [customerservices@stanleysecurityproducts.com](mailto:customerservices@stanleysecurityproducts.com)

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Tel: 0845 201 5005

INTERNATIONAL

Tel: +44 (0)151 357 7834

*Available Monday – Sunday 5.30pm to 8.30am (GMT), excluding Christmas, Boxing and New Years Day*

## More Technical Tips



### Secure Login

iPAC has the capability to securely login whether administering the system locally or remotely. Ensuring the system's integrity, iPAC will only allow one user to log in at any time. A user will need to successfully log out of the iPAC system, either locally or through the web browser, before another authorised user is able to access the system.

*Please refer to IT Manager's Guide (TB115) for any PC related queries.*



### Key Downloads to a Controller

The maximum amount of keyholders that can be downloaded to a controller is dependent on the application of access group pairing.

- 1 access group per keyholder would allow 5,000 to a PAC 202 controller and 10,000 to a PAC 512 controller (restricted to 5,000 if clustered with PAC 202s)
- More than 1 access group per keyholder would decrease this maximum due to keyholder pair allocation, for example, 1 access group assigned to 1 keyholder gives you 1 pair, 2 access groups assigned to 1 keyholder gives you 2 pairs etc

### Muster Reports

- Muster reports are Organisation Unit specific and so a Muster report must be set up per organisation
- Muster reports have the ability to show people that are classified as guests in the organisation
- Muster Reports work with both simple and integrated SecureNet systems and will use the transaction events for sites with multiple PAC 500s
- Muster reports can only be run automatically if a PAC 500 is used. For simple SecureNet systems that use PAC 512s, Muster reports can be manually run through Alarm Viewer

### Visual Verification

The primary function of using visual verification is to enable a security officer to strictly monitor a secure door (cash office, armory etc) where a person's validity by sight has to be confirmed before access is authorised. PAC advise that no access is given to the door in question which would mean a keyholder would be validated before access is granted. When configuring Visual Verification in SecureNet please be aware of the following points;

- Door contacts must be fitted to each door that requires this feature
- The remote door release button will not be visible on the photo window if the person accessing the door has valid access rights and opens the door (contacts break)
- The remote door release button will be visible on the photo window if the person accessing the door has valid access rights to the door but does not open the door
- The remote door release button will be visible on the photo window if the person accessing the door does not have valid access rights to the door

### Wiegand Formats

SecureNet has the ability to create custom wiegand codes up to 64-bit.

*Please refer to IT Manager's Guide (TB115) for any PC related queries.*



### 500 Series Controllers

#### READER TO CONTROLLER DISTANCE

PAC 512	any reader = 70m max (standard alarm cable)
PAC 2200	any reader = 250m max (0.22mm cable)
PAC 2200	any reader = 1000m max (1mm cable)

#### MAXIMUM DISTANCE BETWEEN CONTROLLERS

PAC 500 Series	1km max (CAT 5 UTP cable)
PAC 500 Series	500m max (0.22mm cable)

### PAC 500 Grounding

When installing a PAC 500, make sure there is a connection from Earth (on the power supply connector of the PAC 500) to Ground. The connection to Ground should use 0.75mm<sup>2</sup> or larger cable and be as short as possible (avoid daisy-chaining).

### Positioning Controllers

Avoid mounting readers and controllers in close proximity to large electromagnetic fields ie. high current carrying conductors, high voltage switching equipment.



Upgrading to the latest version of EasiNet Residential provides the following benefits;

- A selectable option to download events from the controller
- A selectable option to open all doors on download
- Download times have been reduced with the option to only download updates
- Improved communication time providing phone call cost savings
- Access Groups now control staff access saving administration time
- Time profiles now applied to staff
- Compatible with Broadband connection
- Enhanced database backup
- Enhanced Event Archiving
- Enhanced Event Log with filtering and highlighting capabilities
- Enhanced reports
- Compatible with USB Administration Kit

*To import an Easikey 1000 database the Easikey 1000 Upload Kit (21408) is required.*

*Please refer to IT Manager's Guide (TB115) for any PC related queries.*

More details can be found at [www.stanleysecurityproducts.co.uk/support](http://www.stanleysecurityproducts.co.uk/support)

## More Technical Tips



### PC Specification



#### PC Hardware Specification

- IBM compatible PC 1.6GHz Dual Core Processor (2GHz recommended)
- 1Gb RAM (2Gb recommended if using Vista)
- DVD
- Sound Output
- Minimum 2Gb of free disk space (10Gb recommended)
- At least 1 USB port or serial communications port for the administration kit
- Network connectivity if using IP controllers
- Celeron or Atom processors not recommended

#### Operating System Requirements

- Windows 7 Professional, Enterprise or Ultimate
- Windows XP Professional with Service Pack 3 or later
- Windows Vista Ultimate, Business or Enterprise 32 bit edition only
- Windows Server 2008 Service Pack 2, 32 bit edition only (SecureNet only)
- Windows Server 2008 R2
- Windows Server 2003 Service Pack 1, 32 bit edition only (make sure the server has the role of an application server if connecting clients)

- PAC now supports 32 and 64 bit editions of Microsoft Windows Platforms

#### Please Note

- Windows Vista Home Basic and Windows Vista Home Premium are not supported
- Windows 2000 Professional or Server with Service Pack 4 or later is supported for client PCs only
- SecureNet and EasiNet Residential no longer support Windows XP Home for client installations
- Windows 2003 or 2008 (SecureNet only) Server and full Microsoft SQL server is recommended for installations with more than 25,000 keyholders

### PAC GSM Modems

- If using a GSM Modem to communicate with a land line connected to a PC, the land line must not be an extension that requires 9 in front to dial out
- PAC's GSM Modem is pre-configured with necessary software to perform simple engineer tests as well as the 'keep line alive' facility
- PAC EasiNet Residential has the in-built 'keep line alive' facility, found in the modem setup screen. The controller initiates the dial up when configured in the system to dial a number periodically which keeps the pay-as-you-go account alive

Please refer to IT Manager's Guide (TB115) for any PC related queries

## PAC Technical Bulletins

NUMBER	TITLE
TB07	Connecting the RS-232 and Six Wire Bus with Line Drivers
TB102	PAC SecureNet Server Performance
TB107	Setting Harmonised or Legacy Output for KeyPAC Readers
TB108	Setting the Baud Rate of GSM Modems
TB113	PAC EasiNet / SecureNet and PC Name Changes
TB115	IT Managers Guide to PAC EasiNet / SecureNet
TB116	Updating the Firmware in a GSM Modem for Automatic Dial Back
TB118	PAC EasiNet / SecureNet on Windows XP Service Pack 2
TB120	Connecting PAC Controllers on a Direct Channel over an Ethernet Connection
TB123	GSM Modem Cables
TB126	Networking PAC PC Software
TB129	Using the 7.2A Power Supply Unit with Controllers
TB130	Installing Message Queuing Services on a Domain Computer for use with PAC SecureNet
TB131	Upgrading a PAC EasiNet System to PAC SecureNet
TB132	Producing a Common Token Code between PAC and Third Party Systems
TB133	Using Magnetic Locks with Inbuilt Latch Contacts with PAC Access Controllers
TB134	Programming a GSM Modem after Installation
TB136	Configuring a PAC 500 IP Address
TB149	Resetting the Baud Rate of GSM Modems
TB151	How to Connect High-current Readers to PAC Access Controllers
TB155	Importing Data into PAC EasiNet and SecureNet
TB157	PAC SecureNet / EasiNet and Windows 2003 Server SP1
TB162	Event Archiving Defaults for PAC SecureNet
TB164	Windows 2003 on a PAC EasiNet / SecureNet Client PC
TB165	COM+ Applications on a PAC EasiNet / SecureNet Client PC
TB166	Exporting Database with Images from PAC for Windows

NUMBER	TITLE
TB167	Controlling Access to PAC EasiNet Areas from External Systems
TB169	SecureNet Cached and Priority Keyholders
TB175	Updating PAC 202 / 512 Firmware
TB176	Using a DB1200M Lock with PAC Access Controllers
TB178	Using a Wiegand Interface Unit with a PC Interface Kit
TB181	Upgrading a Legacy Controller System to PAC SecureNet
TB184	Firmware for PAC 512
TB187	SecureNet User Guide Addendum
TB192	Maximum Number of Controllers
TB196	Resolving Communications Issues with a PAC 512IP
TB198	Setting up a PAC 500 Alarm Server over a WAN
TB200	Setting up a PAC 512IP over a WAN
TB201	Using Two Direct Channels on a PC Running PAC SecureNet
TB204	PAC 202 / 512 Firmware Download
TB205	Setting up a PAC 512IP over a LAN
TB208	Setting up a PAC 512 with Local Anti-Passback
TB213	PAC SecureNet 3.x Installation Guide
TB214	OEM Interface TCP Port 8658
TB215	Start and End Dates in Reports
TB217	Engineer Guide for the iPAC Access Controller
TB219	512 Emergency Override / Free Exit
TB221	PAC 1100/2100/2200 AEM I/O in PAC SecureNet
TB224	USB Formats for iPAC (Multi-Language)
TB225	Magstripe Reader Connection for PAC 2200
TB228	Installation Best Practice Guide

More details can be found at [www.stanleysecurityproducts.co.uk/support](http://www.stanleysecurityproducts.co.uk/support)

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