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SRS SMART.net for Windows Access Control Software

INSTALLATION GUIDE

SOFTWARE VERSION 2.0

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CE

Welcome

Welcome to SMART for Windows, the friendliest and easiest full featured access control system for Windows. The system is capable of a maximum of 99 individual doors all reporting to one Personal Computer (PC).

It is important to read and work through this guide as it is written.

SMART for Windows

SMART for Windows is a full featured mouse driven Windows software package. If you are a newcomer to the Windows operating system then it may be useful to spend some time with the documentation that is supplied with your Microsoft Windows Software.

Before we embark on programming SMART for Windows we first must understand the hardware installed in your building.

SMART.net Access Control - 'The Intelligent Door'

The SMART.net access control system concept is shown in Fig 1. This shows doors connected along a Smart network cable terminating at a PC. The system is of the Distributed Intelligence type, this means that all relevant information (time, date, cards and events) is stored at the door itself. All decisions are made at the door at all times. The door controller has a very accurate quartz clock/calendar that is year 2000 proof, this ensures that all events as they occur are stored at the door with the precise time and date that they occurred. The clock is regularly synchronised with other door controllers on the network.

The SMART for Windows access control program is used to communicate with the door controllers. It transmits new information and receives back any events that have occurred at the door to display and store on the PC's hard disc drive for later analysis. It is important to understand that the PC and its software play no part in the decision process of whether to open a door for a Card Holder. It is recommended however, that the PC is switched on and running SMART for Windows to collect transactions from the SMART Network. Transactions are not lost if the PC is switched off, but are stored at each door controller (maximum 457 events are stored).

The software incorporates a powerful reporting feature that enables elaborate reports to be produced.

The PC can store on its hard disk drive as many events as will fit over many months, even years. The only limitation being the size of the hard disk drive. Reports generated can be sent to the Screen, Printer or to a popular file format for import into other software applications (eg. Microsoft Excel).

Because of these important features SMART.net gives maximum system reliability and integrity. The system is in effect a brain at each door, indeed the 'Intelligent Door'.

Commissioning

Minimum recommended PC specification

Pentium II 133 (Pentium III recommended)
32Mb of RAM
Hard disk drive with 500 Mb free (2Gb recommended)
Quad speed CD drive
1 spare RS232 port
Printer connected
Super VGAMonitor (1024 x 768)
BUS mouse control
Windows 3.11, 95, 98, NT, 2000

If you install the full database of 2000 Card Holders or exceed 5000 transaction events you may need additional RAM.

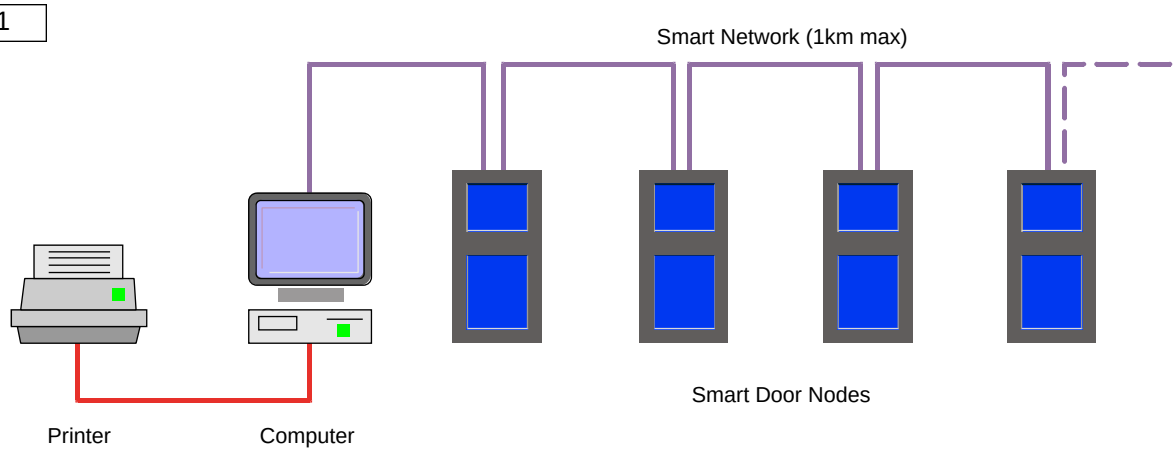
Installing SMART Software

Before loading the software onto the PC it is important to consider the specification of the machine to be used. It is true to say that the faster PC type will allow speedier report assembly, quicker data entry and overall increased performance. There is one CD-ROM provided for a Windows installation. If other media types or operating platforms are required please call your supplier for further information. Your personal serial number is included with the CD-ROM.

TIP *Please carefully follow the instructions in the following paragraphs. Images of the various screens enable you to check your progress.*

TIP *The hardware must have been installed and tested as the program requires its presence.*

FIG. 1



Software Installation.

Follow the instructions that come with your CD

Set up Wizard

Launch the program Smart Access Control from the Windows START Menu (Fig. 11)

TIP *The Door Controllers must have been installed and tested ** as the program requires its presence. Do not proceed without the hardware connected.*

*** Smart Door Node Checklist - Door Controller Installation Manual.*

TIP *Never use Screen Savers on computers with SMART.net for Windows*

Starting Smart for Windows for the 1st time

When the software is launched for the first time you will be presented with a dialog box prompting you to enter Your Name, Company Name and the Serial Number. The serial number can be found on the CD ROM case.

1 Enter this information and click OK.

2 You may now be presented with another dialog asking you to select a data file. If presented with window shown in FIG. 12, open the 'smart' data file.

TIP *Selecting the wrong data file will cause serious problems. Please take care.*

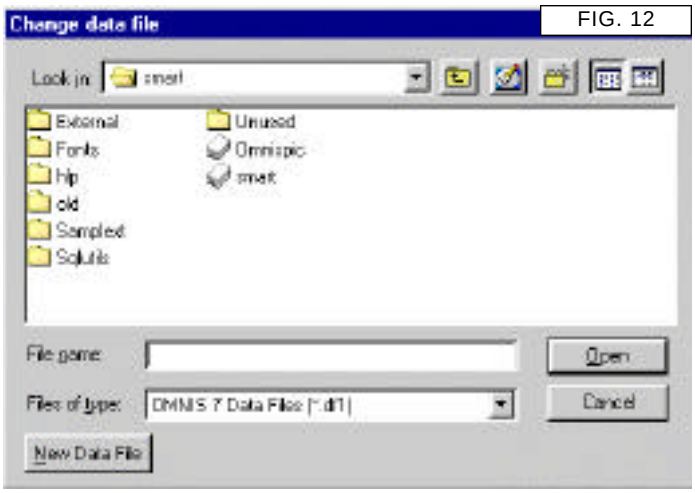


FIG. 12

Smart Set-up Wizard

SMART for Windows software uses a 'Wizard'to help you set up your system for the first time. The Wizard asks a few simple questions in a orderly manner to enable a smooth set up. You should not proceed to the next question without answering the current one. Please read and answer the questions carefully as a mistake at this point may prove time consuming.

Step 1

When you first launch SMART for Windows a dialogue Box will appear. SMART for Windows knows that the software has not been set up correctly.

Please click on the OK button to start (FIG. 13)

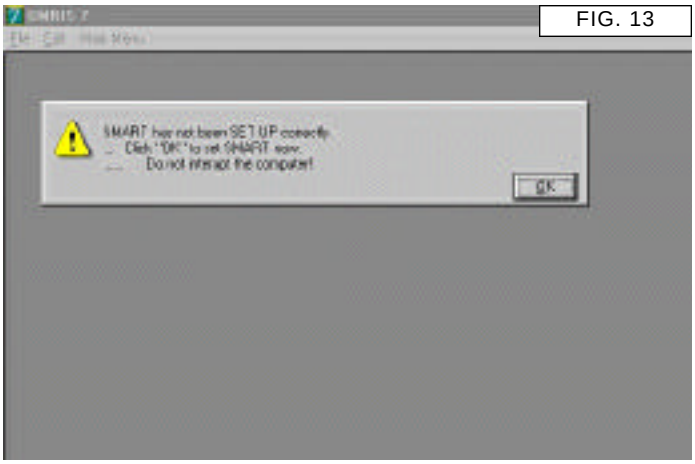


FIG. 13

Step 2

The next procedure is to tell SMART how many doors (DC2000's) are connected on SMART.net (FIG. 14).

Enter the correct amount in the field box, i.e. '10'. Click on the green tick icon when done.

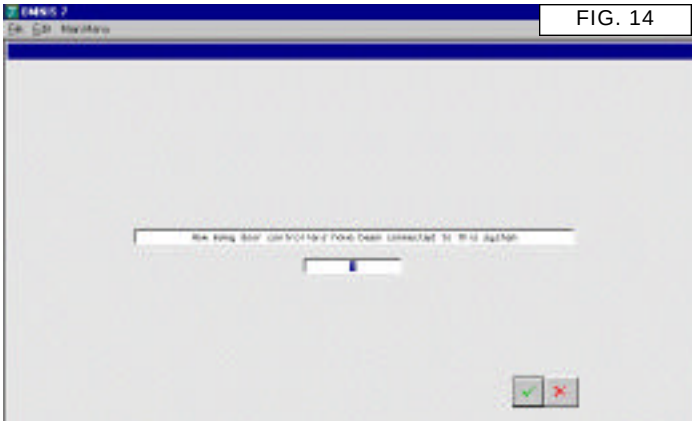


FIG. 14

STEP 3

The set up Wizard now will ask you to name the doors i.e., Door 1 could be “Front Door”. The following question will be asked as many times as there are doors.

Having entered the first door name click on DONE. The statement will appear again for each door until all doors have been given a real name, COM port and serial number (this 5 digit number can be found on the controller at each door). Door names, COM port and serial number can be changed later if required.

TIP *You must enter FULL information in ALL steps.*

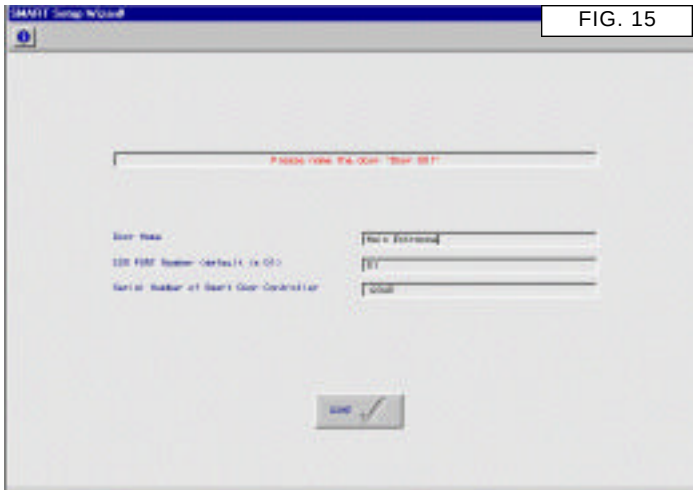


FIG. 15

STEP 4

The next step is to enter the administrators details. The administrator is the user who will manage the system day to day and who has the highest authority. The set up Wizard will ask for a card number, so have one ready. The card applied will be for the administrators use and will have automatic access through all doors at all times and can be used as a system check card. A password is also required which may be needed later in order to administer the software on a day to day basis.

When happy with the data click on NEXT and enter more user information.

TIP *Always issue the card with the lowest card number to the Administrator. Smart calculates the next card number to be issued when you issue cards to the card holders*

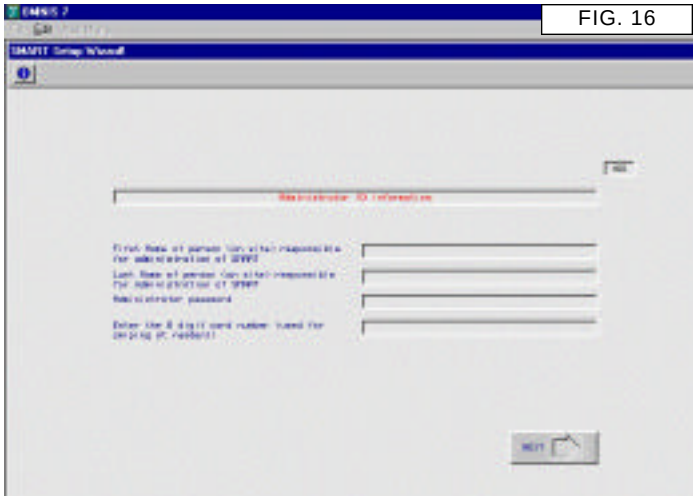


FIG. 16

STEP 5

The set up Wizard now asks you to enter data regarding the installation location. Please enter all the data and click NEXT, continue with the rest of the data.. (FIG. 17 & FIG. 18)

TIP *The SMART.net software will be personalised for the installation address. This information cannot be changed later.*

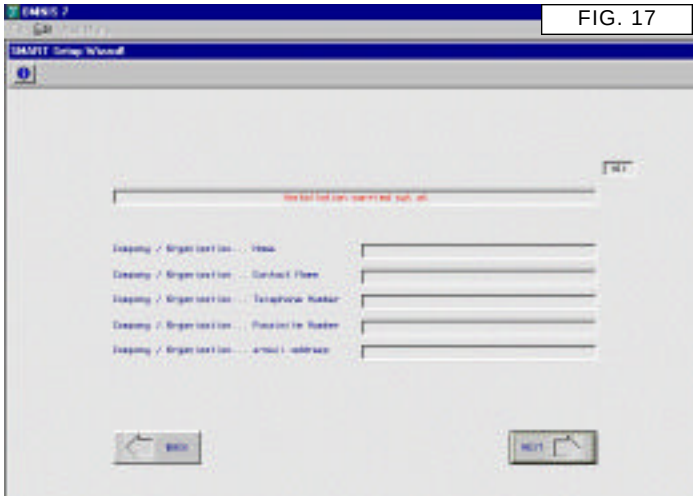


FIG. 17

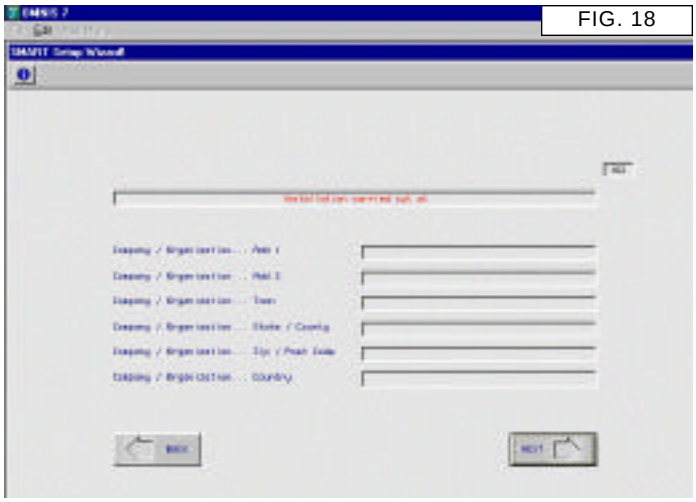


FIG. 18

STEP 6

The next stage is to enter similar data about the installation company. Enter all the information and click NEXT to continue. (FIG. 19 & FIG. 20)

TIP *The SMART.net software will be personalised with the installation company details. This information cannot be changed later.*

TIP *The system now knows specific information about the quantity of doors, user information and installer information. In addition the administrators card has been logged on for later test purposes.*

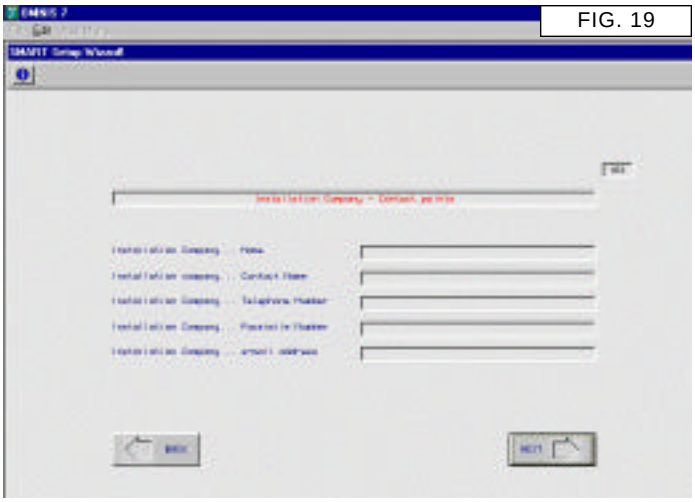


FIG. 19

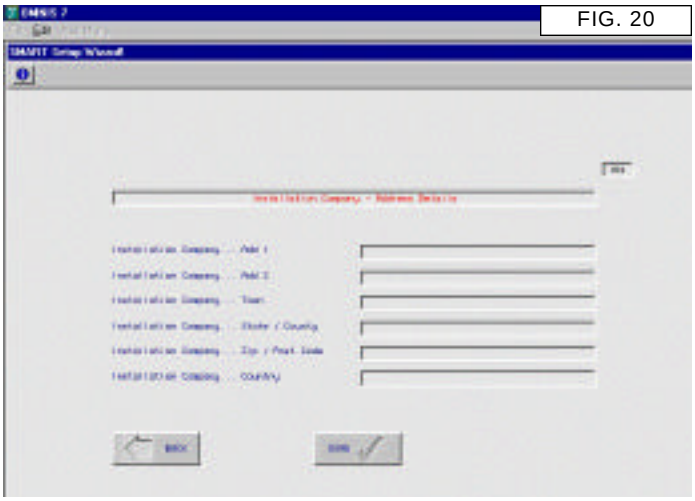


FIG. 20

STEP 7

The set up Wizard will now attempt to communicate with all the doors on the system. Each controller will be updated with relevant information. If the computer fails to communicate with any door controller, you will be alerted. You should check your connections and power at the controller(s).

COMMUNICATIONS TESTS

1 Try swiping the Administrators card at all readers.

2 Check that the event is logged in the Main Event Window (see the User Guide)

Appendix A

APPENDIX A	GLOSSARY OF TERMS:
Access Control Token:	A unique device issued to a user of an access control system to gain entry.
Card reader:	A device used to purvey the unique data of the Access Control Token to the SMART Door Controller, by means of contact or proximity placement.
Department	A collection of people are stored in a department, they have identical access rights.
Door Contact:	A magnetic switch which is closed when the door is closed, used to monitor the status of the door and report Alarm Conditions.
Egress Button:	A normally open momentary action switch located at the secure side of the door to open the door.
Event	Sometimes called a transaction is any action which occurs either at a door or on the computer. eg. Use of an access control token, operation of an egress button, a door opened or closed etc.
Free Access	A door when in free access is automatically unlocked by a Time Zone to allow uncontrolled free movement.
Insecure Side	The area from which you are attempting to gain access into the Secure Side.
Secure Side	The area to which entry is desired, controlled by a Card-Reader.
SMART Door Node:	A complete single door installation consisting of reader, Locking, Egress Button, DC2000 Controller and magnetic door Contact.
SMART Door Controller:	The electronics that store all the data for that door and makes/actions decisions to open or close the door. Also communicates with the Host Personal Computer.
SMART Network	A global communications cable installed in a building, connecting SMART Door Nodes
Time Zone	A software timer with start time, stop time and days of the week parameters.
Transaction	See Event
Walk Through Verification	This is a feature that distinguishes between a valid card read and a valid card read with a door open cycle. This feature requires the use of certain hardware installed at the door. Please check with your installer.

Appendix B

Technical Specification

Below is the technical data for the various components in a SMART Door Node. The ratings are nominal and are subject to variations and possible change. They are given for the purpose of cabling requirements and assurance of correct system operation.

DC2000	SMART Door Controller
Maximum Voltage	12V DC +/ 10%
Quiescent Current	50 mA
Operating Current	100 mA
Operating Temperature	0 to 50 deg. Centigrade
Module Dimensions	68mm x 126mm x 25mm (HWD)
Module Dimensions	88mm x 247mm x 43mm (HWD)
Clock/Calendar	accurate to 1 sec / month @ 25 deg. Centigrade
Year 2000	Compliant for 00 operation
Maximum Stored Tokens	2048
Maximum Time Zones	20
Maximum Holidays	20
Event Buffer Size	457 events
Data Volatility	>5 years
Communications	RS485
Protection	+/- 15 KV line
SMART Network Cable	Beldon 9502, Beldon 9729 > 200 metres
Lock Relay	24v ac / dc Max (@ 1 amp inductive)
Alarm Relay	24v ac / dc Max (@ 1 amp non inductive)

MR4 magnetic Stripe card reader

Maximum Voltage	5v dc + / - 5%
Quiescent Current	16 mA
Operating Current	26 mA
Operating Temperature	5 to 50 deg. Centigrade
Operating Humidity	20% 90% RH non condensing
Module Dimensions	80mm x 40mm x 40mm (HWD)
IP Rating	55

HID proximity reader

Maximum Voltage	5V 12V DC +/ 5%
Quiescent Current	40 mA
Operating Current	50 mA
Operating Temperature	30 to 65 Degrees Centigrade
Operating Humidity	20% 90% RH non condensing
IP Rating	66, sealed and resin potted
Excitation Frequency	125 kHz

Built in power supply (where supplied)

Voltage	12V DC +/ 5%
Maximum Current	1.00A

Appendix C

Network Test Utility

Supplied with the CD ROM Smart.net for Windows is an extra test utility for examining and diagnosing problems with the network.

It is ideal for checking that the network is installed correctly and all door controllers are responding correctly. It allows the engineer to examine the returned data and diagnose any problems or faults accurately and quickly.

The utility is installed automatically with the standard software. It is found by navigating to the C:\Smart folder and locating the application Terminal.exe.

Double click on it to open. You can also run it form the Windows Start menu (smart net tester) on fully installed systems.

At the prompt, if required, select communications port 1. Then select FILE_OPEN and open the file network~1.trm. The screen, when maximised should look as FIG. 48.

Each button at the bottom of the screen corresponds to address of the door under test. If you require more door addresses click on the button 'Level' to take you further.

When using these buttons you must only click another button when the received data has stopped scrolling in the window.

To clear or reset the display area press ALT_E_E on the keyboard.

The screen will have a small blinking cursor in the top left-hand side of the window. This indicates that the utility is ready to receive data.

It is important to understand that when data is displayed is the data being received from the door. Data is in the form of numbers only, you should not see any other characters.

Understanding the data.

With the network connected try clicking once on button HELLO 1. The data returned will vary, but it will return at least the '001'. FIG. 49 indicates that smart door node addressed as number 1 (001) is on-line with no event transactions to send. It also may look something like FIG. 50.

FIG. 3 information is also correct. Below is an explanation of its meaning,

Line 1 indicates the door node address (001) and I have some event transactions to send (00), the last 3 digits (003) indicate the quantity in lines of event transactions it is sending.

The next lines, in this case 3 (003) are the events occurred at the door containing the event type, time, date & card number.

The last line indicates the door node address (001) has just sent event data (01) and I have sent (003) transactions.

This follows the format:

Start Packet, Data, End Packet

The amount of data sent may be as much as 457 event lines complete with the start and end packets.

The golden rule in data reception is that it must always be numeric data received, strange characters and letters indicate badly or incorrectly installed networks. There is one exception to this rule.

You may see non-numeric data characters in the event lines but they must always exist in the last 8 digits, never before and never in the start and end packets.

Please visit the Virtual Training Module on our website for more detailed information.

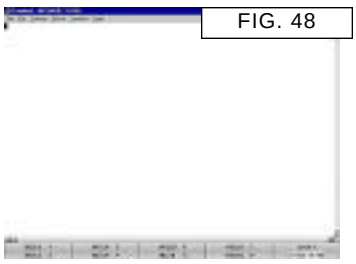


FIG. 48

FIG. 49

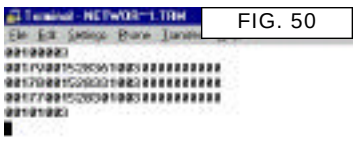


FIG. 50

Trouble Shooting Guide

Problem	Cause	Remedy
I am not receiving any events from my door controllers	Protocol convertor unplugged (or its power supply is unplugged)	Check protocol convertor is connected and has power
	The protocol Convertor is not plugged into COM1	Connect the protocol convertor to COM1.
	Door controller DIPswitches are not correct	Check the DIPswitch setting on the controller to make sure they are correctly set.
	Wiring fault	Follow the Passive Network Test procedure as detailed in the Door Controller installation manual. Try with only 1 door conected and the rest of the network dis-connected. Use the Network Test Utility as detailed in this manual to establish communication Check if LEDs on the protocol convertor flicker when you use the Network Test Utility. The Transmit LED will light for a fraction of a second. This will tell you if the computer is sending to the network (Transmit) and if anything is being sent back from the controllers (Receive). Also check the LED at the controller which lights when the controller is sending (ie. after it has been polled)
Swiping / presenting a card does not open a door	Dirt on the magnetic card reader head	Clean card reader head with methylated spirit on a lint free cloth.
	Card reader mounted at wrong height causes card to be swiped incorrectly	Mount card reader at height of 1200mm from ground
	Incorrect swiping direction and / or orientation	Swipe the card from top to bottom with black (magnetic stripe) to the right and in the reader.
	Card holder is in a department which is not valid for that time or that door	Check the event as reported to the PC and amend the department if necessary
	TIme-Zone Invalid reported back to PC	Check the PC clock. If wrong quit and relaunch SMART software. This will automatically update the door controllers with the correct time
	Invalid Card	Check Department card is a member of and adjust either Department settings or move card holder to a Department which has access through the door.
The green LED on the card reader is on all the time and the door is unlocked	Exit request button is closed circuit all the time	Ensure the exit request button is not short circuited
	An 'Open all Doors'command has been sent from the PC	Send a 'Close all Doors'command from the PC
	The door is programmed for free access	Change the setting - Doors Setup window
After swiping a valid card the door unlocks, then re-locks but will not read another card for some time.	Magnetic door contact not fitted or not linked out, or / and poorly aligned	Fit or repair the door contact (closed when door closed). If not required then link it out in the door controller.
After swiping a card the door unlocks for 1 second only then re-locks	Alarm door contact not fitted	Fit or repair the door contact (closed when door closed). If not required then link it out in the door controller.
A 'Door Forced'alarm message is generated every time the door is opened with using the handle on the inside of the door.	Door alarm contact fitted	Either link out the door contact or fit an Egress Button and remove the mechanical door handle.
I have to launch SMART from Windows Explorer	No shortcut created	Refer to your Windows documentation.

PROBLEM	CAUSE	REMEDY
PC runs very slowly	PC is short of RAM and/or hard disk space	The PC does not have enough RAM fitted. Refer to you PC supplier The PC has used up its RAM to run too many programs or a program uses too much. Try quitting ALLprograms (and SMART from the 'Quit'button on the Splash screen) then launch in SMART normal way.
Windows / colours are distorted	Screen resolution not set correctly (control Panels)	Check that the monitor setup is correctly set in the Windows Control Panel. Set display to 800x600 for best results
Data missing	Computer left off for long periods	Up to a maximum of 457 events are stored at each Door Controller. If the Door Controller is not in communication with the PC the oldest events will be overwritten.
	Screen saver in use	The screen saver may by preventing the PC from using the Serial port (maybe low power mode) which of course prevents communication with the Door Controllers. Turn the Screen Saver off / check low power mode options in the screen saver controls.
I am not receiving any events from my door controllers	Protocol convertor unplugged (or its power supply is unplugged)	The protocol convertor connects the computer to the Smart network. It must be connected to the computer COM port
Time / Date incorrect	Drift on the PC clock	The date and time for ALLDoor Controllers is set by the time set on the PC. Adjust the PC clock (Control Panels). Re-launching SMART will automatically adjust the time at each of the Door Controllers.
When I launch Smart I am presented with a dialogue box asking me to 'Purge the Data'	Smart reminds you do carry out a backup and create a new database when you have a large number of transactions stored.	You should go to the System Setup window and carry out a 'Create New Database'routine. This will remove ALL transactions prior to a date you select. All of the OLD data will be stored in a backup data file which can be found in the OLD folder. Every event stored takes up space on your hard drive. It is good practice to make a copy of your data (stored in the data file SMART.df1)
A valid card holder is denied access	Database on computer does not match controller	Make sure that the card holder really does have the access privileges required. Check them in the card holder / departments window. Find the card holder in the card holder window and click on the refresh (paintbrush) button. This send the correct information for this card holder to ALLdoors.
Error on STARTUP/96	This is caused by the link between the data file and the application software being lost. Usually because someone has attempted to change the data file.	Navigate to the Splash Screen. Go to the File Menu and select 'Change Data File'. When presented with a dialogue box choose the Smart.df1 file (C:\Smart\Smart.df1).