100 USER, TWO ENTRANCE PROXIMITY ACCESS CONTROL SYSTEM

VPROX 100

TECHNICAL MANUAL
EDITION 1.2
04/02/2011
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VIDEX
The Power to Secure

DESCRIPTION

The **VIDEX VP100** is an advanced access control system based upon the VIDEX unique Coded proximity Key giving over 4 billion combinations. The system will operate and control one or two entrance points and store up to 100 proximity Tags or Cards. An additional reader can be connected in parallel at each door to control both entry to and exit from the building. Connections from the reader to the control equipment can be made using an un-shielded 5 core cable up to a distance of 100 meters, or a maximum resistance of 10 Ohms. A dry contact lock release relay and push to exit button inputs are also included for each door.

Security against sabotage is maintained by having the VproX control equipment remote from the reader heads. Should un-stored or un-qualified keys attempt to operate the system, the control unit will disable all readers after every 5 attempts. The duration of the readers disable time will increase if further attempts are made.

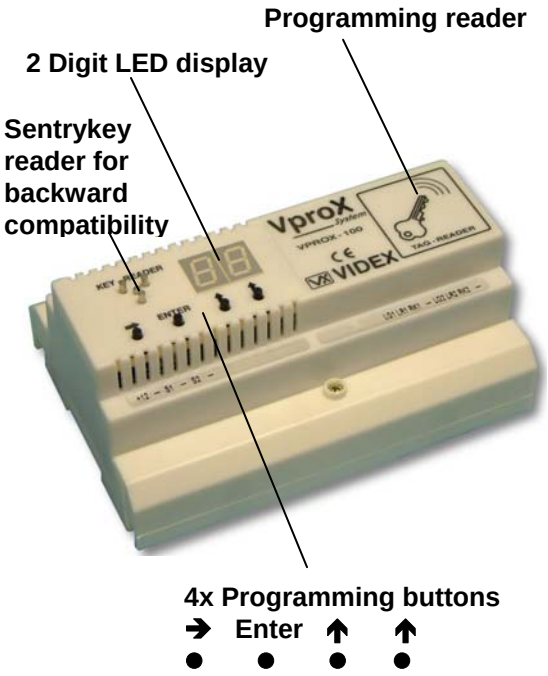
The control unit has a 2 digit LED display which confirms all data in programming mode and displays the key number when in stand by mode (Additionally the display will also show the door being released. The left hand decimal point will illuminate for door one or the right hand decimal point will illuminate for door two).

A programming reader is built into the control unit to simplify programming. The system has 4 push buttons for programming and modifying the information. Using these buttons it is possible to:-

- Program a Master code to access the programming menu.
- Program up to 100 unique keys or Tags with door access options.
- Modify the settings and parameters of a stored key.
- Delete one or more keys or Tags.
- Program each door relay time *(1 to 99 seconds)*

VIDEX run free training courses for engineers who are not familiar with the Videx product range. Technical help is also available on 0191 224 3174 during office hours or via e-mail tech@videx-security.com.

CONNECTIONS



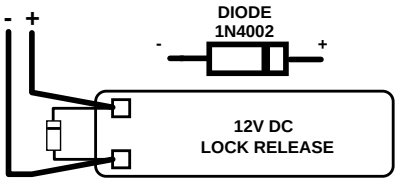
Connection		Function
+12		12Vdc Input
-		Ground (0V)
S1		Push to exit input for door 1 (Switch to 0V)
S2		Push to exit input for door 1 (Switch to 0V)
NO1		Relay 1 normally open connection
NC1		Relay 1 normally closed connection
C1		Relay 1 common connection
NO2		Relay 2 normally open connection
NC2		Relay 2 normally closed connection
C2		Relay 2 common connection
LG1		Reader 1 green LED connection
LR1		Reader 1 red LED connection
RK1		Reader 1 Serial data from reader
-		0V connection to reader 1
LG2		Reader 2 green LED connection
LR2		Reader 2 red LED connection
RK2		Reader 2 Serial data from reader
-		0V connection to reader 2

WIRING DIRECTIONS

The VP100 controller requires a 12Vdc PSU. This will normally be mounted next to the VP100. Connections from the VP100 to the door consist of 5 cores for each reader, 2 cores for each lock release and 2 cores for each push to exit button. It is important that these cores are not run together in the same cable. Furthermore we suggest that the reader and push to exit cable are a minimum of 10cm from the lock release cables and any other higher voltage cables such as mains and electrical lighting. In circumstances when this distance can not be maintained, a screen cable will be required for the 5 core reader cable. Consult the appropriate wiring diagram at the rear of this manual for more information.

LOCK RELEASE BACK EMF PROTECTION

A diode must be fitted across the terminals of the lock release to suppress back EMF voltages. The diagram shows the polarity of the diode when fitted to the release.



OPERATION

In standby mode the reader LED will be amber (The controllers display will show '**--**'). When a user presents a stored proximity key to the reader, the reader LED will change to green, a sharp "beep" will be emitted and the relay will operate for the programmed time. If the key presented is not programmed, the reader LED will change to Red and a low "beep" will be emitted. Additionally, a programmed key will also be displayed on the VP100 controllers LED display. It will appear as a two digit number representing the location in memory where that particular key is stored. The left hand decimal point will also illuminate if the key was used at door one or alternatively the right hand decimal point will illuminate if the key was used at door two.
For security reasons, if an un-programmed key is presented repeatedly, the reader will lockout for a period of time. The lockout time will increase with every attempt that is made.
Pushing one of the 'push to exit' buttons will operate the relevant lock release relay for the programmed time.

PROGRAMMING

When the installation is complete *(carried out in accordance with the supplied wiring diagram)*, the system can be powered up and programmed following the VP100 Programming FLOW CHART (Page 5), on completion the VP100 is ready for use.

PROGRAMMING OVERVIEW
The information below is to be used in conjunction with the programming flow chart.

Standby : (The display shows [**--**])

Master code : The master code allows access to the programming menu.
The preset factory master code is 4 times the arrow right key (➔➔➔➔).

New master code : (The display shows [**n.c.**])
The master code can be any combination of the four keys on the cpu (i.e. ➔↑**Enter**➔).
Note: The master code must be four keys.
If you want to keep the existing master code, you must key that code in again.

To move through the modes, use the arrow right key (➔).

Reading a key or Tag: (The display shows [**rd**])
In this mode, when you present a key to the on board reader the memory location for that key will appear on the display. (NOTE : If the key or Tags is not programmed, the display will go blank).

To move to the next mode, use the arrow right key (➔).

Storing a new key or Tag: (The display shows [**St.**])
Use the two up arrow keys (↑↑) to select a memory location to store the new key. The up arrow keys represent tens and units. The number will appear on the display. Press **Enter** to confirm. (NOTE : If when you press enter you hear a long beep, that number is already taken and you must choose another number. Press **Enter** to return to **St** on the display. It is important to keep the user table at the rear of this manual up to date at all times).
After pressing **Enter**, you may select, using the up arrow keys (↑↑), which door the key has access through. (Default : both doors). The doors are indicated by the decimal points on the display. When the decimal point is shown, the key has access through that door. The decimal points are toggled on and off using the up arrow keys (↑↑).
After selecting the doors, simply present the key to the on-board reader head, the key is stored and the display will return to (**St**).

To move to the next mode, use the arrow right key (➔).

Deleting the key or Tag: (The display shows [**CL.**])
You do not need the key to delete it.
Simply select the key number to delete using the up arrow keys (🡅🡅) and press **Enter**. The key is now deleted.

Setting lock open time for door one : (The display shows [**t.1**])
Use the up arrow keys (🡅🡅) to select the time in seconds and then press **Enter** or press ➔ to got to the next mode.

Setting lock open time for door two : (The display shows [**t.2**])
Use the up arrow keys (🡅🡅) to select the time in seconds and then press **Enter** or press the ➔ to leave this section and exit programming mode.

The display will show '**- -**' to confirm leaving programming mode.

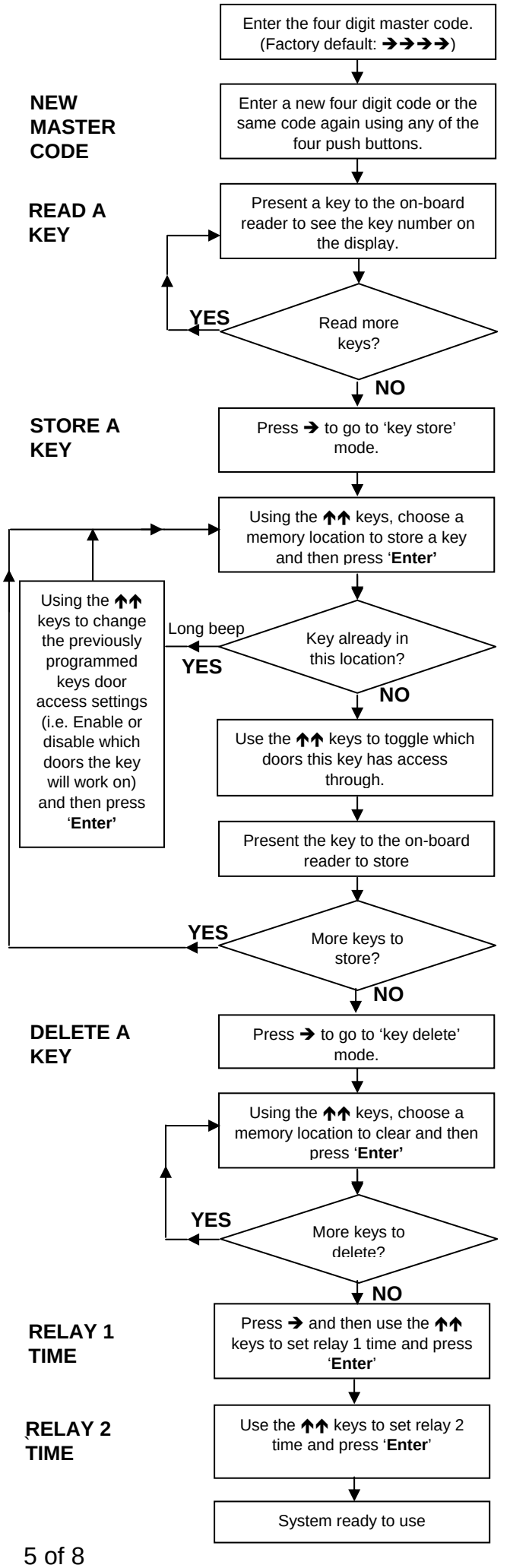
TROUBLESHOOTING GUIDE

Symptom		Solution
The CPU will not go into programming mode when entering the four key master code.		- The master code has been changed to something else. To reset the master code to ➔➔➔➔ first power down the VP100, then press and hold the ➔ key while the power is returned.
The display does not show [**--**] when you power up.		- Check the voltage across +12 & - on the cpu. - Disconnect everything except the supply into the CPU and check again. (If the fault goes away check all connections and wiring again).
The reader head is only showing red in standby.		- Check the LG1 or LG2 connection from the CPU to the reader head for breaks. - Check the voltage across LG1 or LG2 & - (This should be 8V DC). Do this check at the CPU with both the Read head connected and disconnected.
The reader head is only showing green in standby.		- Check the LR1 or LR2 connection from the CPU to the reader head for breaks. - Check the voltage across LR1 or LR2 & - (This should be 8V DC). Do this check at the CPU with both the Read head connected and disconnected.
The LED's on the read head are on but do not change state when a key is presented.		Check terminal RK1 or RK2 for continuity and possible shorts to other wires.
Reader head is going green when a key or Tag is inserted but the door is not opening.		- Check the relay is operating on the CPU. If it is not, check the input voltage to the CPU is not below 12Vdc. If the relay is operating : - Check with a volt meter the voltage across the lock release when the relay has energized. If the correct voltage is there, replace the release. If not, check the cables from the release, back to the relay.
The reader head is dead.		- Check the - terminal to the reader head for continuity. - Check the reader head connections for shorts. - Check the CPU is powered up.
The key has been programmed but the reader head is going red.		Check the key or Tag is programmed by using the read key mode on the CPU. Check in the programming that the door has not been switched off.

Technical Specification

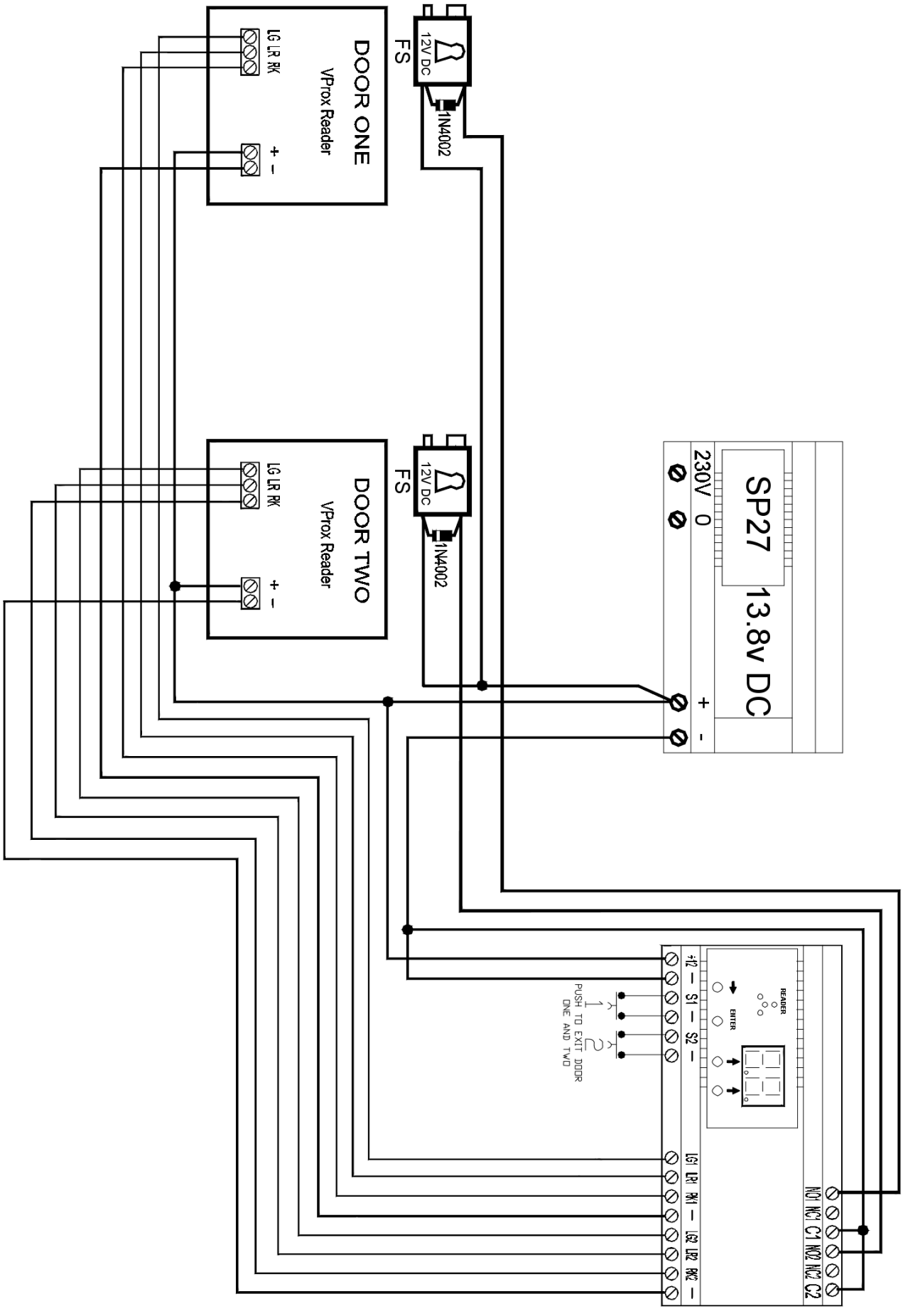
Storage capacity	-	100 keys or Tags
Number of doors	-	2
Number of readers	-	4
Working voltage	-	12V DC +/- 10%
Current (Quiescent)	-	Approx. 100mA
Current (During operation)	-	200mA max.
Working temperature	-	-10 +50 C degrees
Lock output	-	5A 30VDC Dry contact

PROGRAMMING FLOW CHART



DISPLAY EXAMPLE

	n.c
The display will go blank for an non-programmed key.	r d
	S t
	2 4
If a memory location is in use it will not be possible to put another key in the same location.	
The left dot is for door one and the right for door two. When the dot is illuminated the key will have access through that door.	2.4.
	C L
Note: If there are no keys to delete, press the ➔ key to jump to the next mode.	2 4
Note: To leave relay time 1 as it is, press the ➔ key to jump to the next mode.	t. 1
Note: To leave relay time 2 as it is, press the ➔ key to exit the programming mode.	t. 2
	- -


DOOR ONE
VProx Reader
LG LR RK
+ –
FS
12V DC
1N4002
DOOR TWO
VProx Reader
LG LR RK
+ –
FS
12V DC
1N4002
SP27
13.8v DC
230V 0
+
-
READER
ENTER
+12 — S1 — S2 —
1
2
PUSH TO EXIT DOOR ONE AND TWO
LG1 LR1 RK1 — LG2 LR2 RK2 —
NO1 NC1 C1 NO2 NC2 C2

VP100 USER DATA LIST

MASTER CODE (Any combination of the ➔**Enter**↑↑ keys) | | | | |

RELAY 1 TIME (Anything from 01 – 99 Seconds) | |

RELAY 2 TIME (Anything from 01 – 99 Seconds) | |

User name	Key No.	
	0	0
	0	1
	0	2
	0	3
	0	4
	0	5
	0	6
	0	7
	0	8
	0	9
	1	0
	1	1
	1	2
	1	3
	1	4
	1	5
	1	6
	1	7
	1	8
	1	9
	2	0
	2	1
	2	2
	2	3
	2	4

User name	Key No.	
	2	5
	2	6
	2	7
	2	8
	2	9
	3	0
	3	1
	3	2
	3	3
	3	4
	3	5
	3	6
	3	7
	3	8
	3	9
	4	0
	4	1
	4	2
	4	3
	4	4
	4	5
	4	6
	4	7
	4	8
	4	9

User name	Key No.	
	5	0
	5	1
	5	2
	5	3
	5	4
	5	5
	5	6
	5	7
	5	8
	5	9
	6	0
	6	1
	6	2
	6	3
	6	4
	6	5
	6	6
	6	7
	6	8
	6	9
	7	0
	7	1
	7	2
	7	3
	7	4

User name	Key No.	
	7	5
	7	6
	7	7
	7	8
	7	9
	8	0
	8	1
	8	2
	8	3
	8	4
	8	5
	8	6
	8	7
	8	8
	8	9
	9	0
	9	1
	9	2
	9	3
	9	4
	9	5
	9	6
	9	7
	9	8
	9	9

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