

## *ProxLock 1000 / 3000* *Stand-alone access control system*

### User's manual



## General notes

1. This manual contains all the required information for the use of the products described within. During installation of the power lines, the standard regulations need to be taken in to account.

The contents of this manual are verified as closely as possible. Nevertheless, errors can not be excluded. The company bvba ProxTech International declines all responsibility for all problems occurring from this or unauthorized use of the product.

2. In the text hereafter the term “tag” indicates a transponder in either a key fob or ISO card version.

## General description

The PL1000 / PL3000 access control system is a compact stand-alone system to drive a door opener at an access. The identification of the persons is done by means of a tag and/or PIN code. Detection of the tags is done by using a RF transmission system for contactless identification using passive transponders.

A transponder is powered and read as soon as it enters in the local magnetic field of the antenna. These read data are then transformed and tested on validity.

If the data is valid ( valid card ) a relay contact is closed which drives the door opener.

Validation or blocking of tags is done by a master card and the integrated keypad.

## Mounting instructions

The PL1000 / PL3000 system is designed for a standard European ( 55 mm ) flush mount gangbox. Installation nearby metal surfaces or other RF detection devices should be avoided as this might influence the read range. Should the system be installed on a metal surface, or when there is no flush mount box available, the user can make good use of the supplied surface mount frame. ( Note that even then the maximum read range can't be guaranteed when mounted on metal. )

When mounted outside, the necessary precautions must be taken for the connectors.

After correct installation, the switch block can be covered with the supplied front and side labels.

The used door opener should be opening when powered and require no more than 1A 24 Vac/dc.

When using DC power a spike suppression diode type 1N4004 is to be used ( sometimes already integrated in the door opener ). When using AC power, a varistor is required.

In its default version, the PL1000 is intended for use in low security environments. Since the decision of opening the access and driving the relay is done inside the PL1000 terminal, tampering and unauthorised opening of the access is easily possible. ( ref. Figure 1 )

For higher security applications, we advise to use the PL3000 system and to mount this PL3000 master unit in the secured area ( behind the door to be controlled ) and the additional slave reader in the unsecured area. ( ref. Figure 2 ) Please note that both readers should be installed at least 30 cm away from each other.

The slave PL3000 reader is standard supplied as card-only, so no keypad fitted.

Figure 1 : Standard “low security” mounting of the PL1000

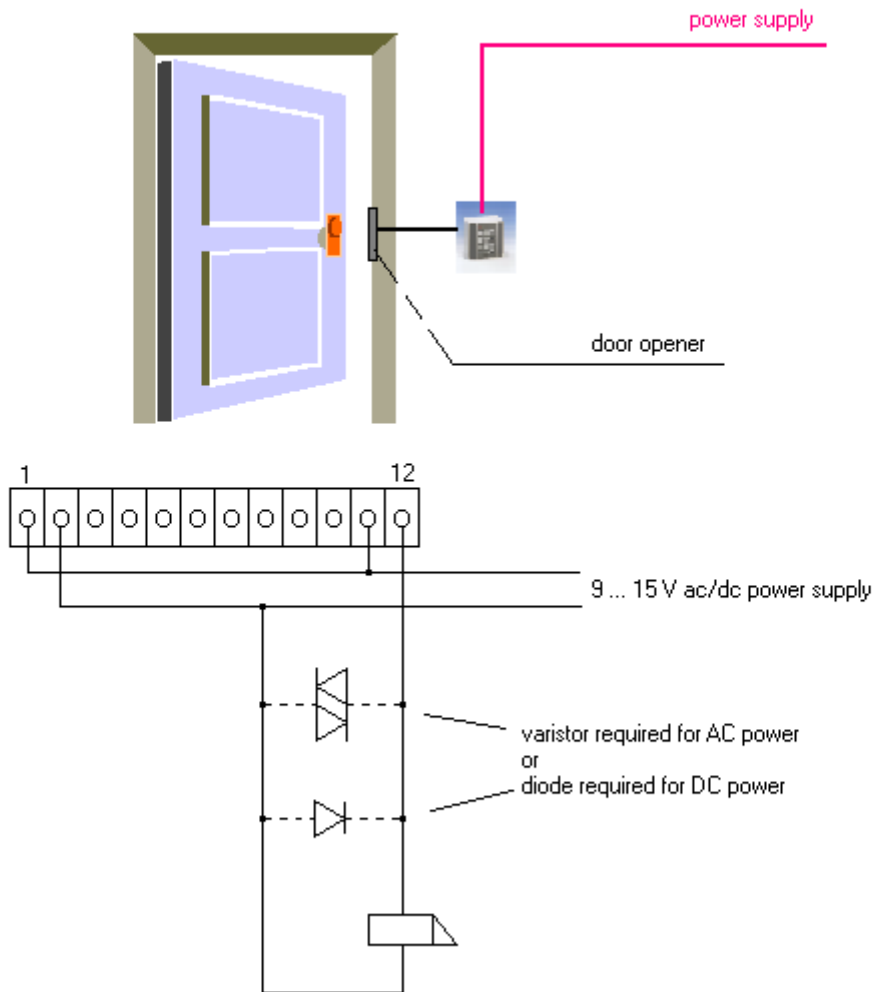
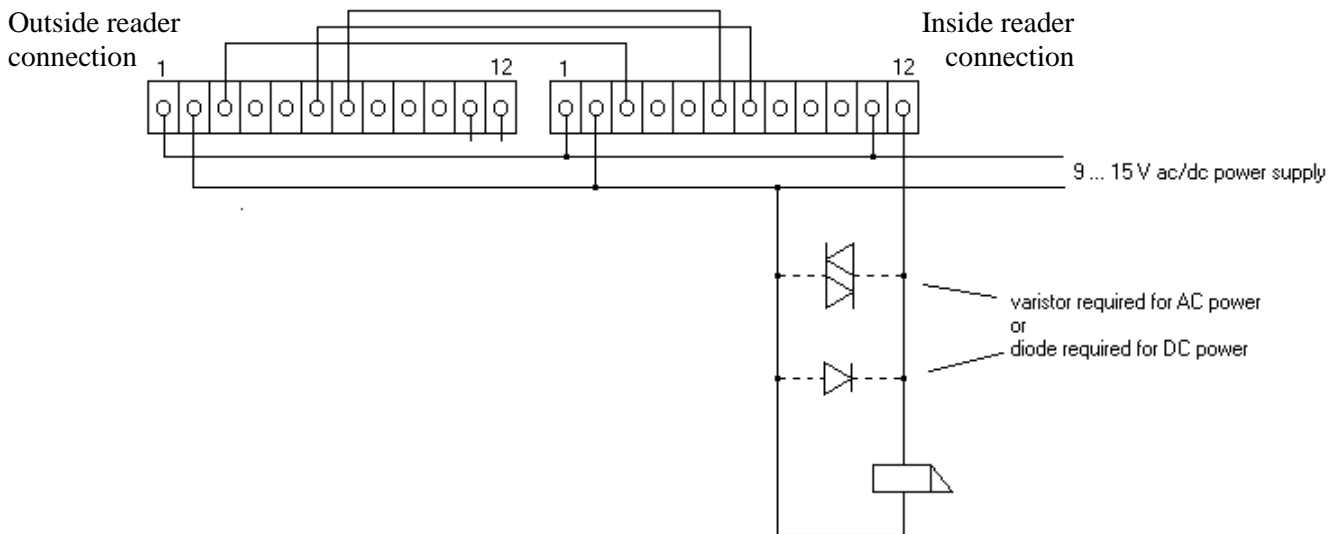
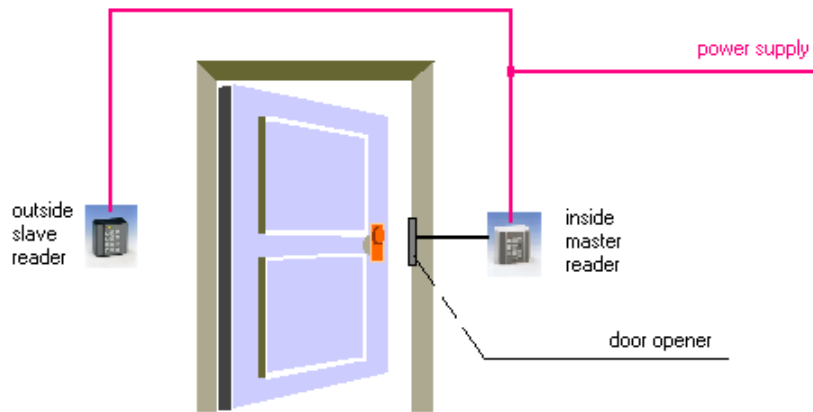


Figure 2 : Mounting a PL3000 system in a “higher security” environment



## Using the PL1000/PL3000 system

### Access with tag

The tag is held in front of the reader and a beep is heard.  
When the tag is valid, the door opener will be activated for about 5 seconds and the green led turns on.  
The red led indicates an invalid tag and the door opener will not be driven.

### Access with PIN code

A code up to 6 digits long is entered on the keypad. Each key activation will result in a short beep and a blinking of the yellow led. The code is then confirmed by pressing the "\*" key.  
Should a wrong key be pressed by mistake, the complete code can be erased by pressing the "#" key.  
When the code is valid, the door opener will be activated for about 5 seconds and the green led turns on.  
The red led indicates an invalid code and the door opener will not be driven.

### Access with tag + PIN code

An up to 4 digits long code is entered on the keypad, followed by the tag being held in front of the reader.  
Should, while entering the code, a wrong key be pressed by mistake, the complete code can be erased by pressing the "#" key.  
When the tag and PIN code are both valid, the door opener will be activated for about 5 seconds and the green led turns on.  
The red led indicates an invalid tag and/or PIN code and the door opener will not be driven.

## Programming the PL1000/PL3000 system

For programming or blocking tags or PIN codes in the system, a master card is required.  
When the system is supplied initially, the master card supplied with the system is already programmed in the system's memory.  
When the PL1000 / PL3000 is powered on, it will automatically turn to its default state ( yellow led on ).  
Should there be no master card in the memory, or the master card was erased from the memory, the system will turn to the "master card programming mode". This is indicated by all led's turning on for about 10 seconds, followed by a short beep and the red and green led turn on. The first card which is now held in front of the reader will act as the ( new ) master card ( short beep ).  
The system then returns to its default state ( yellow led on ).  
Note that programming can only be done at the master terminal and not at the slave reader. During programming the slave reader will be blocked so that no access is possible.

When the master card is presented in front of the reader, the PL1000 / PL3000 turns into "programming mode", the yellow led starts flashing and the green led turns on.

The PL1000 / PL3000 stores each programmed tag or code in a specific memory address by using card addresses. Therefore it is at all times possible to erase a lost code or card from the memory without the need of erasing the entire user memory. It is therefore recommended that a list is kept to indicate on which address each of the users is programmed. For the system, it makes no difference if a tag is used or a code or both.

The PL1000 or PL3000 system offer a maximum uszer memory of 500 users

## Programming new users

### Key “1”

Once entered in programming mode ( master card presented to the reader, yellow led flashing, green led on ), press key 1 to enter the “learning mode” ( yellow and green led flashing ).

Enter the memory address ( e.g. for a 500 user version, a number between 000 and 499 ) and confirm by “\*”. The system now switches to “read mode” ( red led on, yellow and green led flashing ).

Now enter the new PIN code and/or hold the new tag in front of the reader.

The system stores the new user in the given memory address and switches back to “programming mode” (yellow led flashing, green led on ).

If the given memory address is already taken by another user, this user will be overwritten !!!

If the newly programmed user is already in the system’s memory or an attempt is made to learn the master card as a new user card, this new user is not programmed and the system switches directly to its default state ( yellow led on ).

Note that at all times the programming of a user can be quit by pressing the “#” key.

## Deleting users from the memory

### Key “\*”

Once entered in programming mode ( master card presented to the reader, yellow led flashing, green led on ), press key “\*” to enter the “delete mode” ( yellow and red led flashing ).

Now there are 3 different ways possible to delete a user.

### Deleting a user by entering its user tag and/or PIN code

#### Key “1”

This method is to be used when the user tag and/or PIN code are still available, or when the memory address for this user is not known.

Enter key “1”. The system will go to “read mode” ( red led on, yellow and green led flashing ).

Now enter the user’s PIN code and/or hold the tag in front of the reader.

The system deletes this user from the memory and switches back to “programming mode” ( yellow led flashing, green led on ).

Note that at all times this manipulation can be quit by pressing the “#” key.

### Deleting a user by entering his memory address

#### Key “8”

This method is to be used when a tag is lost or a PIN code forgotten.

Enter key “8”. The system turns in to “memory address mode” ( yellow, red and green led flashing ). Then enter the memory address of the user to be deleted and confirm with “\*”.

The user in the given memory address will be deleted from the memory and the system switches back to “programming mode” ( yellow led flashing, green led on ).

Note that at all times this manipulation can be quit by pressing the “#” key.

### Deleting the entire user memory and the master card

#### Key “6”

This method id to be used to re-initialise the entire system memory.

Enter key “6”. The system turns in to “reset mode” ( red and green led on ).

Confirm this action by pressing the “\*” key three ( 3 ) times. Note that at all times this manipulation can be quit by pressing the “#” key.

The system confirms this reset request with a long beep and all led's turn on. When the system has been reset ( after approx. 10 seconds ), a short beep is heard and the red and green led turn on.

The system now stands in the "master card programming mode". The first card which is now held in front of the reader will act as the new master card ( short beep ). The system then returns to its default state ( yellow led on ).

## Quit programming mode                      Key "#"

Programming mode can be quit by pressing the "#" key. The system then returns to its default state ( yellow led on ).

## Memory download ( Receive )              Key "8" ( version V1.01 22.02.02 or later )

After pressing the key "8", the system is ready for download ( receive ). The led's will start flashing sequentially ( red ... yellow ... green ... red ... ).

It is now possible to download correctly formatted data blocks over the RS232 interface lines. For every 50<sup>th</sup> data block received, a short beep is heard. These data blocks can be originated from a terminal program, or from another system.

The download mode is ended by pressing the "#" key or when the master card data block is received.

The download of 500 data blocks on a PL1000 / PL3000 M500 system takes around 20 seconds.

Interface parameters : 9600, 8, N, 1

## Memory upload ( Send )                      Key "9" ( version V1.01 22.02.02 or later )

After pressing the key "9", the system sends its stored data blocks from the 1<sup>st</sup> to the last ( depending on the version M100, M300 or M500 ) user. The led's will start flashing sequentially ( green ... yellow ... red ... green ... ).

The upload mode is ended by pressing the "#" key or when the master card data block is received.

The uploaded data blocks can be outputted to a terminal program or a second system ( see "memory download" ).

## What to do when the master card is lost ?

Should the master card be lost, the entire memory must be deleted and a new master card must be programmed.

To do so, turn off the power from the system ( disconnect the connector plug from the back of the system ) and open the switch block on the upper right front side .

Place switch n° 1 ( lower switch ) in the ON position ( to the left ). Reconnect the connector plug in the back of the system to power the system back on.

All led's will light up for about 10 seconds. Now the entire system memory is deleted. As soon as this is completed, a short beep will sound and red and green led turn on. The first card which is now held in front of the reader will act as the ( new ) master card ( short beep ). The system then returns to its default state ( yellow led on ).

Now the switch n° 1 must be placed back in its original OFF position ( to the right ). If this switch stays in the ON position, the system memory will automatically be deleted again on the next power up of the system.

## Connections of the PL1000 / PL3000

Connector pin	Function
1 + 2	9 ... 15 Vac or 9 ... 15 Vdc ( 1 = Vcc, 2= GND )
3	RS232 GND
4	Not connected ( optional ANT1 for readers with external antenna )
5	Not connected ( optional ANT1 for readers with external antenna )
6	RS232 TXD
7	RS232 RXD
8	Not connected
9	Not connected
10	Not connected
11	Relay contact
12	Relay contact

## Technical specifications

- Dimensions: 80 x 80 x 18 mm
- Electrical installation : power supplied over a bell transfo 9....15V AC/DC
- Typical nominal current consumption = 60 mA ( per reader )
- Relay output ( NO ) max 1A - 24 V
- Read range up to 10 cm
- Fully potted electronics ( weatherproof and tamper free )
- With integrated antenna, buzzer and 3 LED's for status indications
- Each tag has its unique identification number

## Overview of visual indications

Red led	Yellow led	Green led	Indication
Off	On	Off	Default state
Off	On	On	Detected valid user, door will be opened
On	On	Off	Detected invalid user, door will not be opened
On	On	On	Complete memory reset, switches to "master card programming" mode after approx 10 seconds
On	Off	On	Waiting for new master card or for confirmation of reset action
Off	Flashes	On	Programming mode
Off	Flashes	Flashes	Waiting for memory address for new user
On	Flashes	Flashes	Waiting for new user tag and/or PIN code
Flashes	Flashes	Off	Delete mode
Flashes	Flashes	On	Waiting for a tag and/or code to be deleted
Flashes	Flashes	Flashes	Waiting for a memory address to be deleted