Instructions for installing the MLS security system

With the Manager program

Ver.: 2.5 Single User

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Introduction

The basics of the MLS electronic security system are intelligent input control units, called the controller units. The system is based on the use of the electronic keys, which can either be contactless cards or key fobs, magnetic cards, radio keys or PIN codes. One electronic key can open different doors, as well as different keys can open the same door. Each key can have time limited opening of the doors. Each opening of the doors with a valid key, or an attempt to open the door with an invalid key is recorded as an event. All the events are saved in the control module's memory. Different sensors, readers, terminals or WebLock 3000 locks (**Sensor layer**) can be connected to the control module through the SNIB (Simple Node Installation Bus) bus, sometimes referred to as A2C bus. Up to 8 sensors can be plugged into one control module, and thus 4 doors can be controlled (each door usually has 2 sensors – for entering and exiting the room). Mostly the SNIB/A2C sensors have two outputs. The factory default for the first output is to control different electronic receivers and electronic locks. It can also be used to control automatic doors. The factory default for the second output is to control the siren. That way each sensor carries a function of an alarm device. If you don't need the alarm functions, the second output can be easily reprogrammed. Besides that, most of the sensors also have two inputs, on which you can plug the opened-door sensors, motion sensors, broken glass sensors, switches for remotely controlled opening of the doors, etc. The behavior of certain outputs when a certain event happens on the inputs can be easily set on the PC.

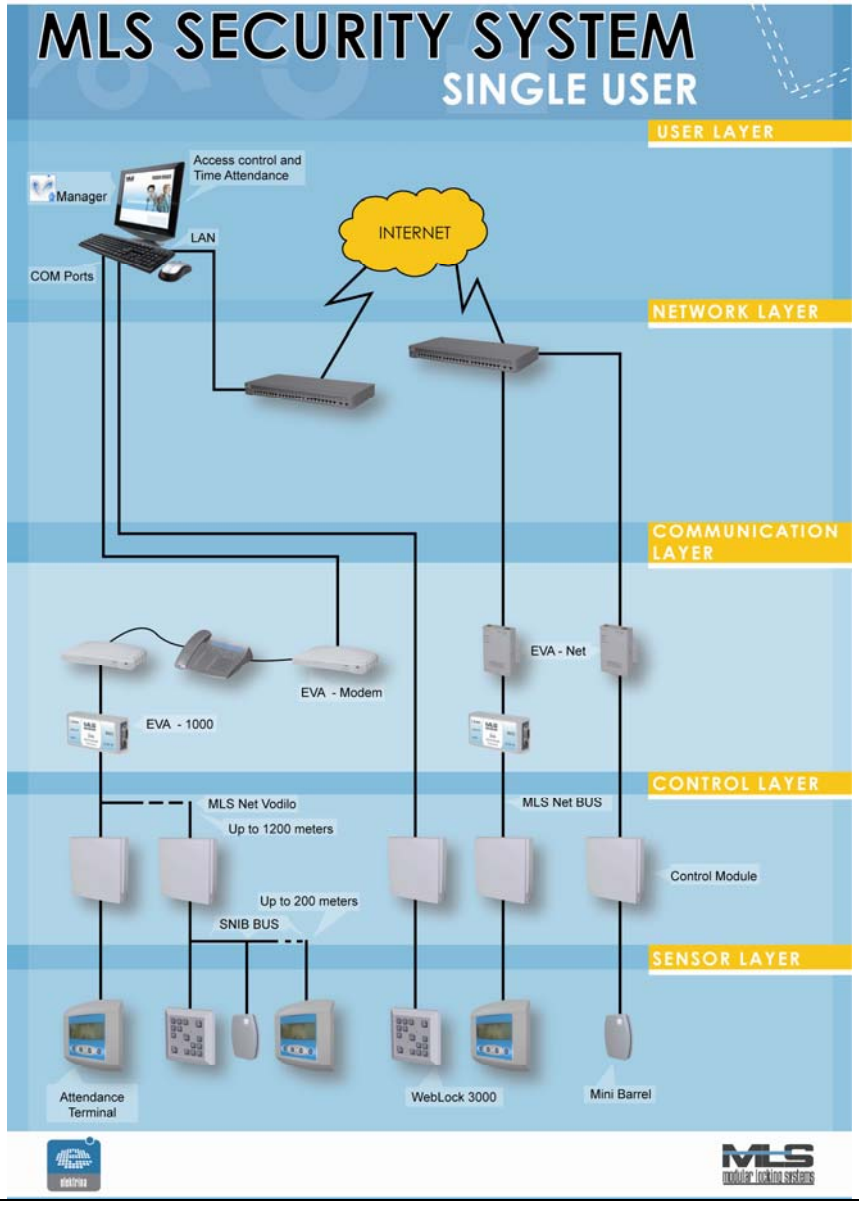


Figure: MLS Single User security system with Paradox database

Each control module can operate:

- individually
- connected over RS232 network to the central surveillance computer,
- connected over RS485 network, which also allows several control modules to be connected through one serial port, to the central surveillance computer.

Control module can be connected (**Communication layer**):

- through EVA-NET interface to LAN network,
- through commutated telephone connection (modem),
- through USB port.

Communication interface EVA-NET also allows different dislocated parts of the company or system to be connected to the common system through the internet.

Crucial operations always take place on local level, which means that even if the communication fails, the control module will continue to operate without trouble. The S-01 control module can memorize up to 4000 keys and 4000 events.

About Manager software packet

Manager is a software package, meant for controlling and managing the MLS electronic security system. The program is based on the central relation database **Paradox**. The Manager program manages the database, as well as it collects data from the entire security system. If the version of the Manager program is 2.5 or less, means that the program is meant to manage the **Paradox** database and that it can only be managed from a single computer – hence the name **Single User**. In case the version is higher than 2.5, the program is meant to manage the **SQL** database and can manage it from several computers and is therefore named **Multi User**.

Program modules

Basic software package features:

- support for one control module with one door,
- connection of control module through RS232, RS485, LAN or commutated telephone connection (modem),
- simple transfer of data from/to other applications,
- multi-lingual support,
- events overview,
- automatic hardware detection.

Additional program modules enable:

- connection of any number of doors,
- connection to the control modules through internet with EVA-NET interface,
- time attendance for small companies.

Functions of the program

Functions of the Manager program can be split in 4 basic categories:

1. Installing the system,
2. Setting the authorizations*,
3. Events overview*,
4. Time attendance*.

* Described in separate chapter, *User's manual for MLS security system with the Manager program*

INSTALLING THE SYSTEM

The program allows the user to set up all the parameters of the control modules and A2C/SNIB sensors. The user can set up different modes of functioning, specific time in which the electronic locks will open and program input, output and alarm functions.

SETTING THE OPERATORS, OWNERS AND AUTHORIZATIONS

With authorizations you can choose which persons (owners of keys) will be allowed to enter to certain rooms as well as the time in which they'll be allowed to enter the rooms. For operators, you can set the groups which they control and which settings they're allowed to modify. Authorizations can be set for each person individually or for the whole group. Time limitations can be set very generally for each day in week. Besides that you can set the special time limitation for special days, such as holiday and vacation. Time limitations can also be date-dependant, so that they're functioning only in certain period.

EVENTS OVERVIEW

All the events can be reviewed according to different criteria. For instance, it can be reviewed, who was entering a certain room in certain time period, which rooms did a certain person go through, etc.
Collected events can be displayed in different formats. They can be exported to preferred commercial program for data processing.

TIME ATTENDANCE

Based on the events, recorded by the control modules or enter/exit points set in the software, the program can calculate time attendance:

- Calculation of employee attendance on the job,
- Recorded owner's name, attendance time, date and absence type,
- Based on the data, monthly evidence can be run about the surplus or the lack of hours spent at work,
- Calculation of paid overtime,
- Setting the number of required hours the user must work in one month,
- Setting the group work timetable for normal days, holiday, business trips, etc.
- Setting the possible extra absences, etc.

The program allows exporting the data in other commercial programs for personal income calculation.

1. Installing the system

Installing the Manager program

Hardware requirements:

- PC or PC compatible computer with 1000 MHz CPU or better,
- 128 MB of RAM,
- Free serial (COM) port, if the control module(s) are connected straight to the PC.

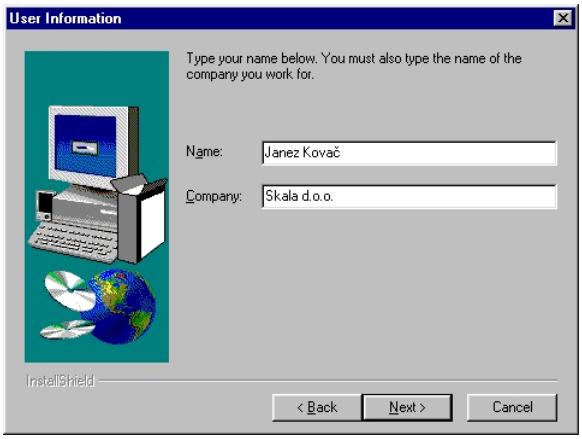
Software requirements:

- Windows 95/98/NT/2000/XP;

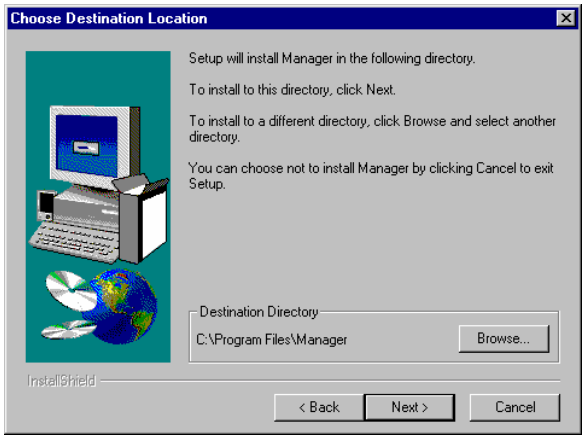
Install procedure

1. Insert the CD into the CD-ROM unit. Start the **Manager** installation program by running **Setup.exe.**
2. As the »**Welcome«** screen appears, click on the button »**Next«.**

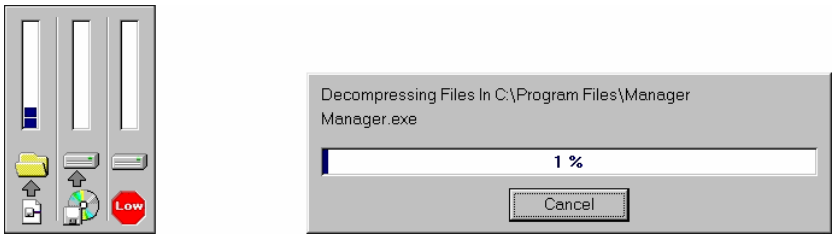
3. Enter your personal and company info.



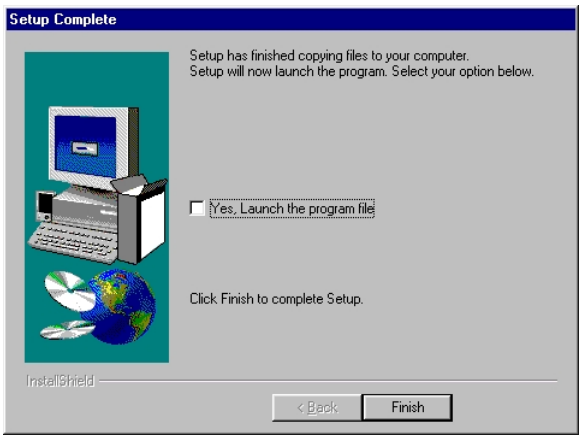
4. To install the **Manager** program to default location, click on the »**Next**« button in the »**Choose Destination Location**« window. If you wish to install the program to any other folder, click on the button »**Browse«…** and choose the folder yourself. Finally, when the »**Select Program Folder**« window appears, select in which folder in **Programs** section of the **Start menu** you wish to place the shortcut.



5. The program will install automatically.



6. As the »**Setup Complete**« window appears, it means the installation was successful and you can begin using the program.



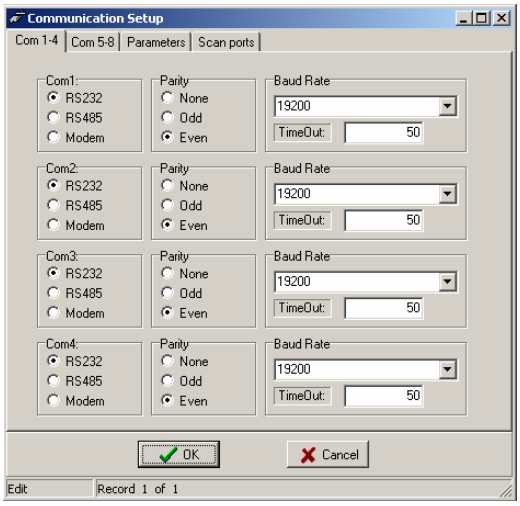
2. Configuring the MLS security system

We recommend that the configuration of the system is set only by the authorized MLS security system service representatives.

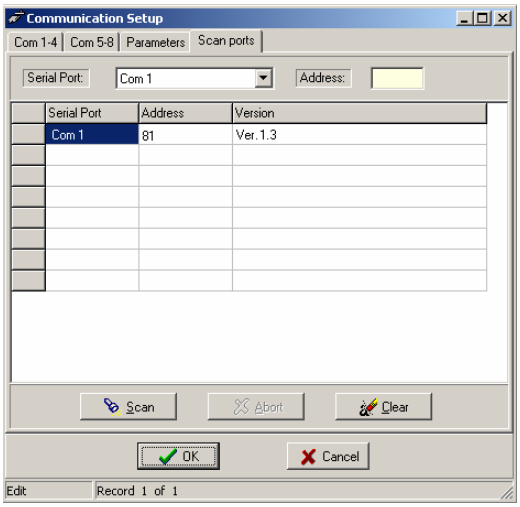
1. When the Manager program is installed on the PC, first thing you need to do is set the basic settings of the control modules and doors, establish communication of the computer with the security system and check the quality of the connection between the PC and control modules.

2. Set the communication port

By clicking on the »**Setup -> Communication**« menu, the following window will appear:



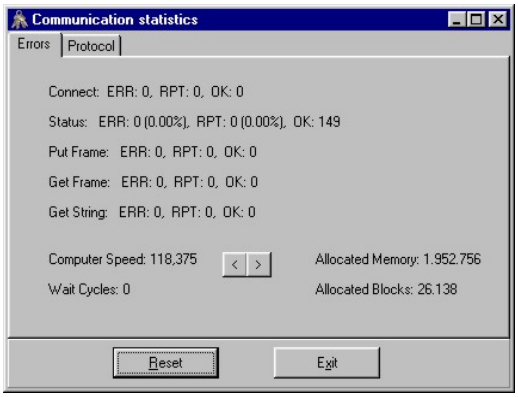
For each serial port in use you need to choose the type of connection, type of parity, connection speed in Bauds (connection speed and parity are specified on the EEPROM of each control module) and the maximum time delay (»Time Out«). Usually the maximum time delay at:
RS232 about 50 msec,
RS485 about 50 msec,
USB connection about 50 msec,
Modem connection (EVA-MODEM) about 500 msec,
LAN-WAN connection (EVA-NET) about 1000-8000 msec.
To use the LAN or WAN connection, see the manual »Running EVA-NET interface on security system through LAN network«.



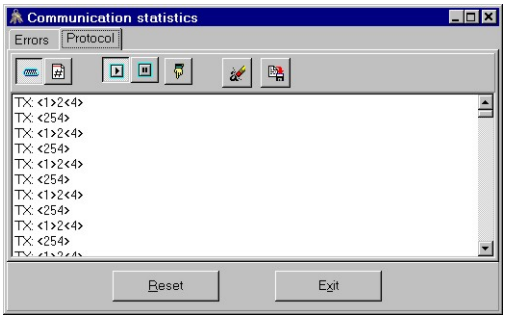
3. The fourth tab »Scan ports« is meant for finding the address of the control module on specified communication port. You simply choose a port, to which the control module is connected and click on the »Scan« button. All the control modules connected to this communication port will be listed in the table.

Communication statistics

By clicking the »Tools -> Communication statistics« the following window will appear:

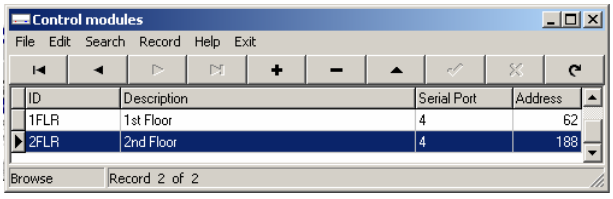


In the window you can see the number of occurred errors, their frequencies and the number of errorless entries. That window is meant for testing the line in case of disturbances.



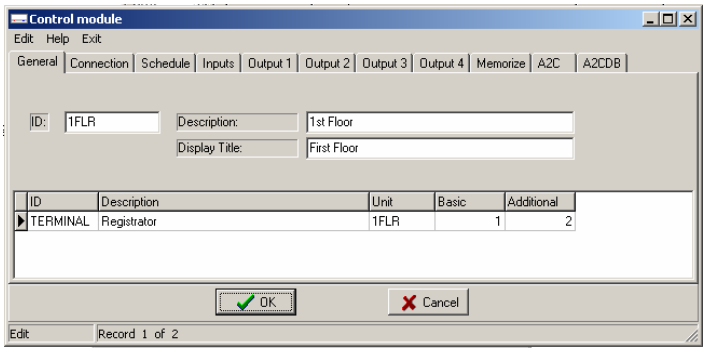
Setting the control modules

By clicking the »**Control modules**« icon or through the menus »**Access control -> Control modules**« the »**Control modules**« window will pop up. Here you can overview and change the control modules' settings when configuring the system.



Each entry includes the **control module ID, description of the control module, port and address**.

By clicking the **»+«** button you can add entries as you connect new control modules. The following window will open:



GENERAL

In the **»General«** menu you can enter the following parameters:

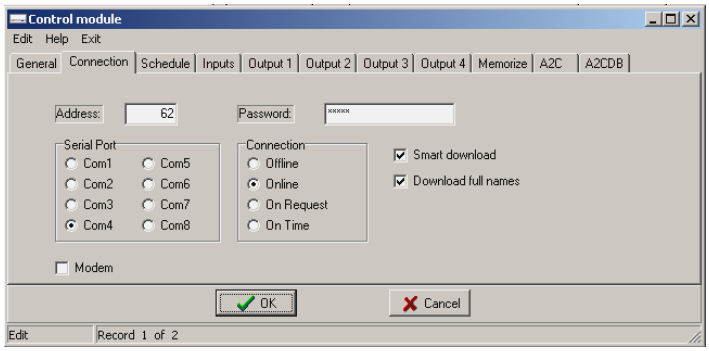
ID – control module label:
Enter the ID of the control module. ID – a label of the control module also represents the primary key for the control modules table and has to be unique for each control module. Therefore two control modules cannot have the same ID. The control module ID is vital, for in the tables the control modules are listed by their ID labels.

Description:
Few words entered in the description field provide additional information, so that in the tables and reports we also see the description next to the ID of the control module, for example: First floor.

Display Title
Text which you enter in that field will be seen on the display of the terminal when a key is used. Usually one enters the name of the company, in which the security system is installed.

Doors:
One control module can have up to 4 doors. In the **»Doors«** menu we can see the **Door ID, door description, control module ID as well as main and additional readers** on the doors.

CONNECTION WITH THE CONTROL MODULE



In this menu you can set the parameters, which enable correct communication with the central computer. You can set the control module address, serial port, type of connection and, if you're using modem connection, local and remote modem strings (check the **»Modem«** box).

Address:
Enter the control module address. Each control module has its own address, which is a reference number that the PC uses to contact the control module for response. An address of the control module is written in the EEPROM of the control module and can not be changed. It is written down on a sticker, which is placed on the EEPROM, but you can also find it out with a program (**»Setup -> Communication - > Scan ports«.**

Serial port:
Choose the serial port number (COM) on the PC, through which the computer communicates with the control module. You can also connect more than one control modules to one serial port, however even if only one control module is connected to the serial port, you still need to enter the address.

Connection (with PC):
Choose the type of connection between the PC and the control module:

- You can shut down the connection (Offline).
- You can choose constant, uninterrupted connection. If the **»Online«** option is selected, then the computer constantly communicates wit the control module – it calls it, checks how it works, transfers events to the hard drive and reads control module's status information.
- The third option is **»On request«** connection. If this option is selected, the computer establishes communication with the control module only, when you request it. That happens when downloading events, uploading the settings and controlling.
- The last option is on-time scheduled connection. The data will be transferred at specific time.

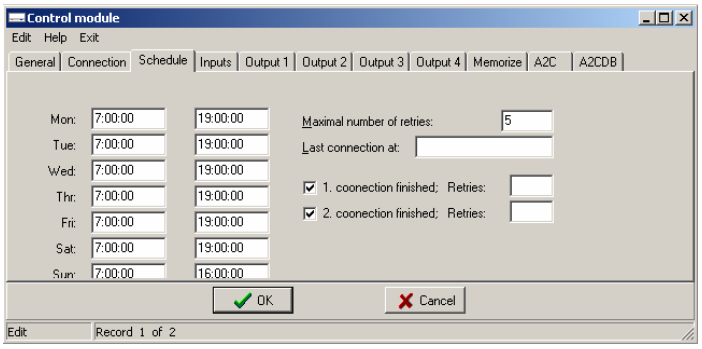
The transfer rate is from 10-2000 bytes per second.

Modem connection:
If you're using modem connection, you need to set the basic parameters on the PC modem and on the control module's modem. See additional manual for establishing modem connection »Establishing modem connection through commutated telephone line at MLS security system«.

Smart download:
Allows downloading compact data.

Download full names:
Downloading first and last names of users for display on the terminal.

SCHEDULE OF CONNECTIONS TO THE CONTROL MODULE



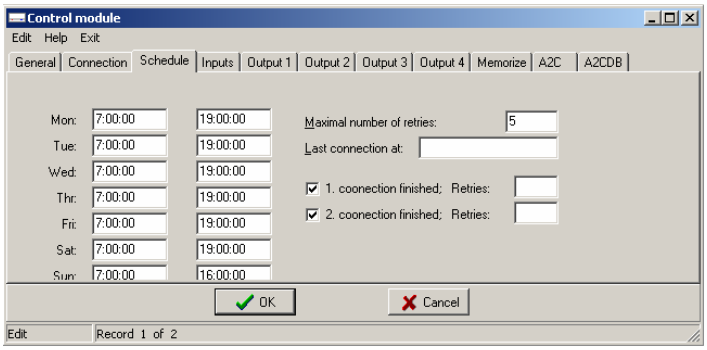
In case you've chosen the **»On time«** type of connection, you can set in the »**Schedule«** menu when you want the computer to call the control module and transfer the events, stored in it. Each control module has enough memory for storing certain amount of events. As the memory is full, the latest events are erased. You can schedule 2 connections for transfer for each day of the week

In this menu you can also set the »**Maximal number of retries**« to establish connection with the control module.

Time when the »**Last connection**« with the control module occurred is displayed.

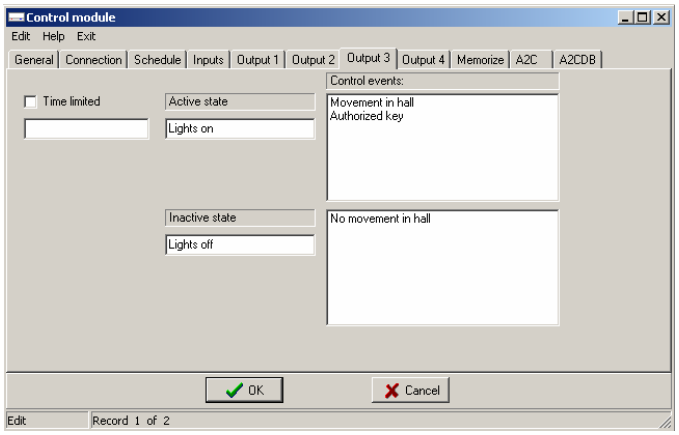
You can also see how many retries it took for one connection to be established.

CONTROL MODULE INPUTS



A control module has 8 digital inputs, to which you can connect additional sensors (IR motion sensors, broken glass sensors, buttons for opening the door, etc.). The inputs which you're going to use need to be selected and labeled. You need to label the high (active) and low (inactive) state on each input in use. This is useful, because as the events are reported and you check the state of the control modules, you can see the description of the states of the inputs.

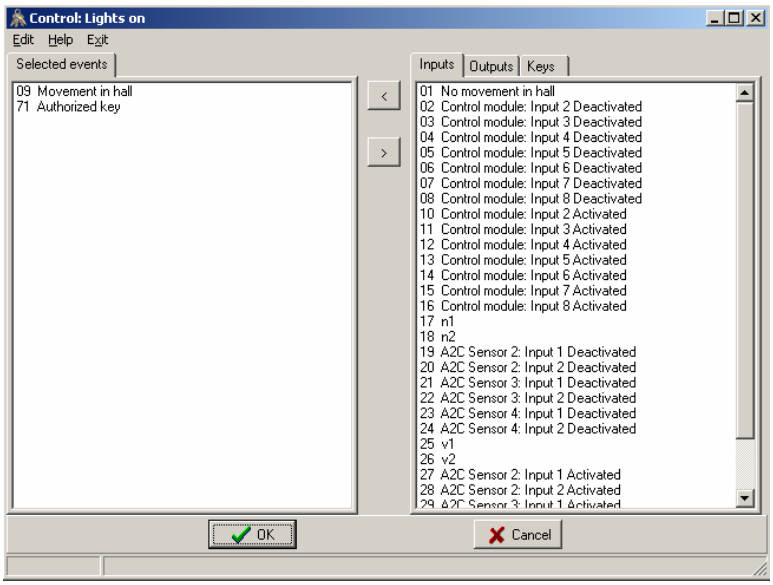
CONTROL MODULE OUTPUTS



For each output which you then use in the program, you must set the label for the low (inactive) and high (active) state, as well as time limitation. Time limitation means, that after a specified time has passed, the output will switch to inactive state. You can also open the submenu **»Control events«**, where you set the events that cause and output to switch states.

Example: On the hall in purchasing department you wish for the lights to turn on, as the motion sensor detects movement in the hall. You wish the lights will turn off one minute later.

In the »**Control events**« field you specify, which events will trigger a certain state of the output. Double-click the first line in the table to open the »**Control**« window.

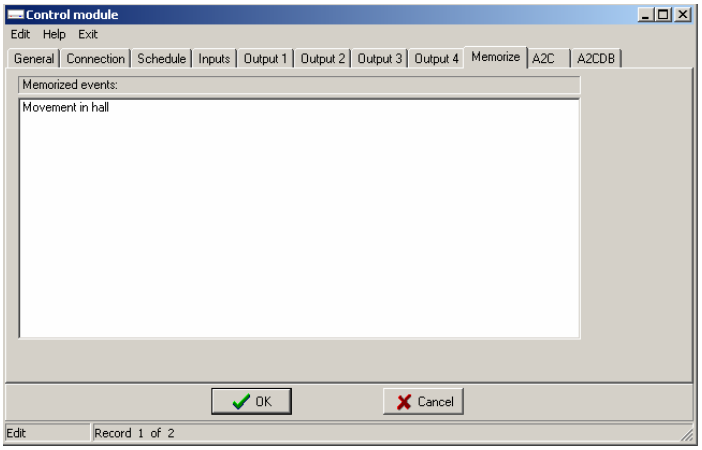


You can choose the desired events among inputs, outputs and keys (Special 1-4, unknown, authorized, unauthorized, lost) and click on the arrow to move it to »**Selected events**«. Confirm the selection with the »**OK**« button. In our case, we've chosen the movement in hall and any authorized key as the events which will trigger the lights in the hall to turn on.

MEMORIZING EVENTS ON THE CONTROL MODULE

In this menu you can choose, which events are important enough to be memorized and entered in the database, such as:

- inputs: movement in hall (motion sensor),
  opening the door (switch inside the door),
- alarms,
- outputs: lights on,
  alarm siren on.



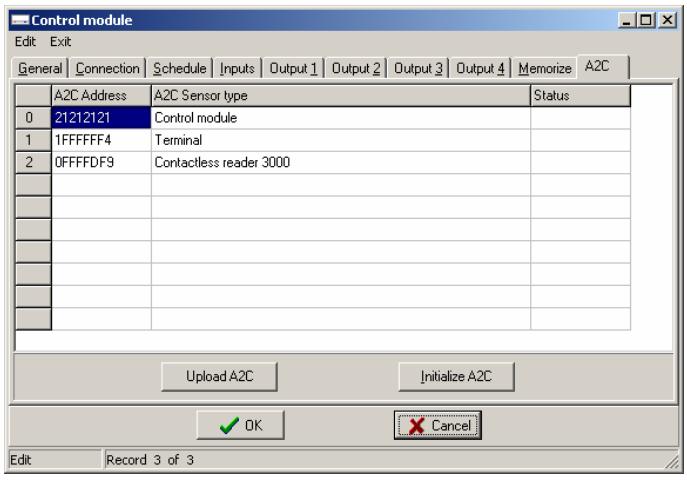
Double-click the first line in the table to open the »**Memorize**« window. Choose the events you find important enough to be memorized and confirm by clicking the »**OK**« button.

SNIB/A2C BUS ON THE CONTROL MODULE

The MLS security is designed, so that it automatically recognizes new sensors (Plug and Play), which are connected to the bus. As the new SNIB sensor is connected to the active bus, the control module creates the driver for the SNIB sensor, which controls its operation. The status of the SNIB sensor is active in that case. If you plug out the SNIB sensor, the sensor status will switch to inactive state after 30 seconds.
The data in the window is not automatically refreshed. Recent state can be read by clicking the **»Upload A2C«** button.

For Manager versions up to 2.5

It is utterly crucial that after changes (connection of new SNIB sensor on the bus) you press the »Initialize A2C«, button, which will cause the SNIB numbers (0, 1, 2…) to be sorted from lower to higher.



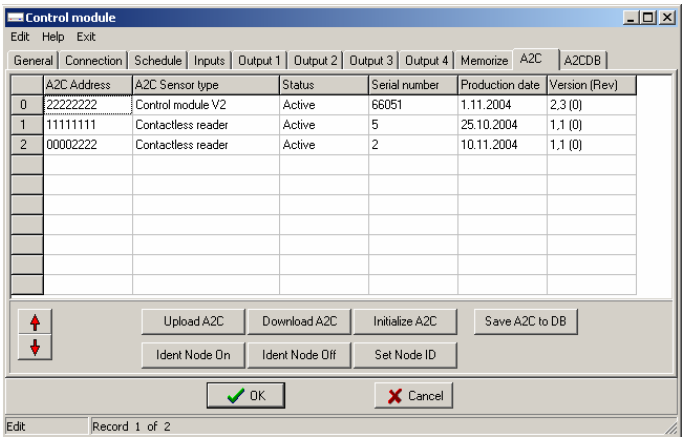
The sensor's SNIB address is a 4bytes long unique number, which the manufacturer specifies as the sensor is produced. WebLock 3000 allows the address of the sensor to be changed with the »Setup & Test program for WebLock 3000« program.

If you change the address make sure all the sensor addresses are unique.

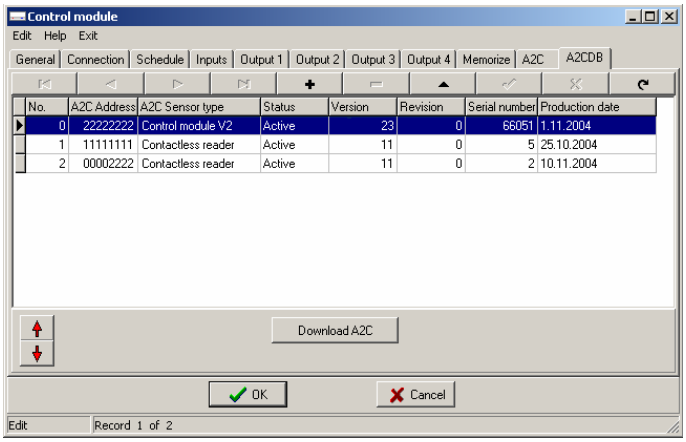
When configuring doors you will need to refer to the SNIB number, not the SNIB address, so it's good to remember the **sensor's SNIB number** (number on the far left field), under which the sensor is placed.
IMPORTANT! The sensors must be physically placed so that the outer sensor carry numbers from 1-4 and inner sensors from 5-8. The inner sensors must always have SNIB numbers higher than the outer sensors.

For Manager version 2.5

In version 2.5 of the Manager program it's no longer necessary to initialize the SNIB bus, for every sensor can be sorted as you wish. For identifying each sensor there are »**Ident node on**« and »**Ident node off**« buttons. You can also change the SNIB address of each sensor (for sensor manufactured after 1.1.2005). **If you change the address make sure all the sensor addresses are unique.**

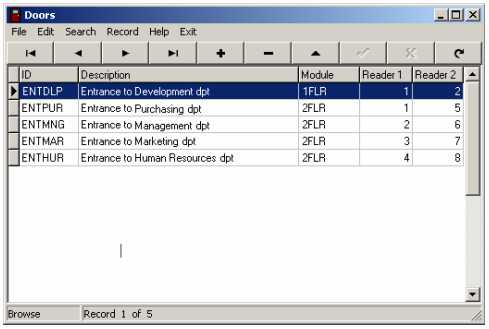


After you've sorted the sensors, you need to save the setting. That is done by clicking on the »**Save A2C to DB**«, which writes the assortment into the SNIB database. Then you click on the A2CDB tab, where you can see the current assortment of the sensors in the SNIB database. By clicking the »**Download A2C**« button, the assortment will be saved to the control module's EEPROM.



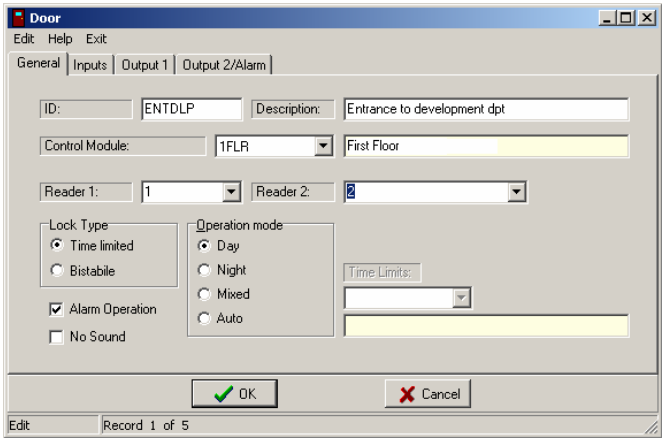
Door settings

The "**Doors**" menu can be opened by clicking the »**Doors**« icon or through menu »**Tools -> Door control**«.
In the window you can see the entries of basic settings for individual door. Each entry has door ID, door description, control module ID, inner and outer reader.



By clicking the »+« button, you can add new entry. Double-clicking an entry enables you to change it. A new window will appear:

GENERAL



The »**General«** menu is a basic window for setting the parameters for door operation. First you configure the general settings.

ID – door label
ID – door label also represents the primary key for door table and has to be unique for each door – therefore 2 doors cannot have the same ID. The door ID is vital, for in the tables the doors are listed by their ID labels.

Description
Few words entered in the description field provide additional information, so that in the tables and reports we also see the description next to the ID of the door for example: Entrance to development dpt.

Control module
Enter the control module, to which the door is connected.

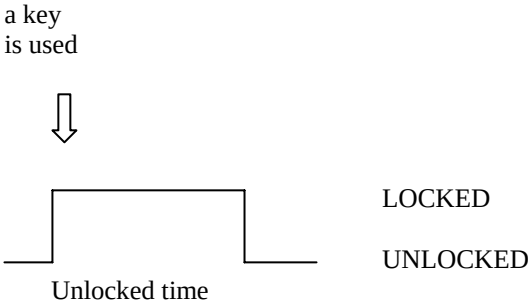
Reader 1
Choose the main reader. Main readers are readers with SNIB number from 1 to 4. Main reader is always placed outside the door.

Reader 2
Each door can have 2 SNIB sensors. In the **»Reader 2«** field enter additional reader or choose the **»No additional reader«** option. If you wish to use the additional reader, you need to assign it a number. Additional reader is placed inside the door. **If you're using 4 doors with 2 readers per door, all the outer readers must**

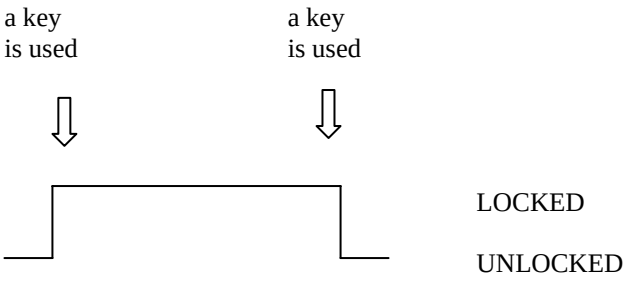
have numbers 1-4 and inner reader 5-8. Inner readers must always have higher numbers than the outer readers.

Lock Type
On the output 1 of the reader placed by the door, there can be different kinds of electro-mechanic locks and electric receivers plugged into it. In standard version you have two options:
1. time-limited opened door – mono-stable type of door operation,
2. bi-stable way of door operation.

Mono-stable type of door opening means, that after the door has been unlocked with authorized electronic key, the lock will remain open for a certain time (unlocked time), then it will be locked.



At the **bi-stable type of operation** when unlocked, the lock will remain open (unlocked), until you don't lock it back with an authorized key.



WARNING!
When choosing the bi-stable type of operation, you need to make sure that the electro-mechanic receiver/lock can really sustain constant electric charge!

Operation mode:
At bi-stable type of operation you can also set the type of door operation.
1. At **day operation mode** once unlocked, the lock remains open until you lock it back.
2. At **night operation mode** the lock locks-back automatically after a certain time.
3. At **mixed operation mode** the lock operates like in day mode in specified time period, and for the rest of the time it operates in night mode. That means that you can leave the lock unlocked for a certain time (for example during work hours). In the beginning you unlock the door with an authorized key. In day mode the door will remain unlocked. Once the system switches to night mode, the door will lock itself automatically and will open only with an authorized key.
4. At **automatic operation mode** the lock will unlock itself automatically at the beginning of the previously set time limitations and will lock itself back at the end of them.

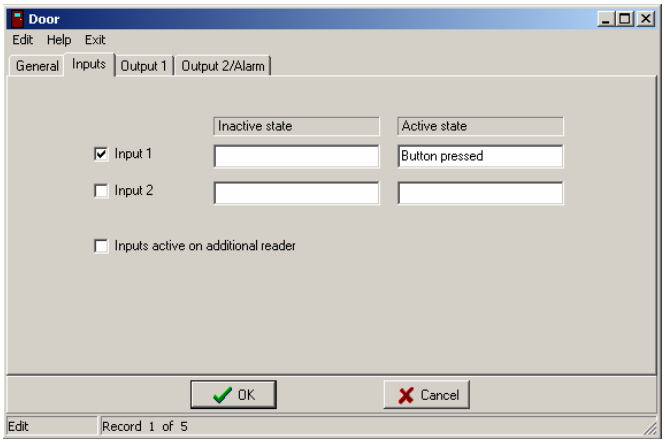
At mixed and automatic operation modes you need to choose time limitations, which specify when a certain mode will be used. You can choose amongst options that you've previously set in Time Limits menu.

Alarm operation:

If you wish to use the output 2 in alarm purposes, check the »**Alarm operation**« box. Each reader placed by the door can also function as an alarm device for the room in front of which it's mounted. In that mode, certain events or states on the inputs trigger the alarm. The alarm always activates on output 2 of the reader. By clicking the tab »**Output 2/Alarm«** a window will open, where you can set the events which trigger the alarm operation.

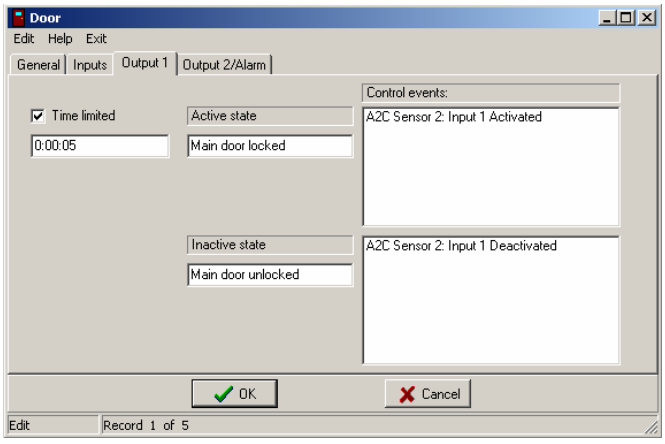
INPUTS

On the reader there are 2 inputs. There you can connect a button, closed-door sensor, motion sensor…
You need to describe for each input the active and inactive state (for example door open-door closed for the closed door sensor).



When using the system, you can see the description of the active and inactive stat of individual input in »**Events«**.
By checking the box **»Inputs active on additional reader«** you set the inputs active on the inner instead on the main reader.

OUTPUT 1
For each output you can label the low (inactive) and high (active) state which you then use in the program, as well as you can set the time limit. That means that when a certain time has passed, the output will automatically switch to low (inactive) state.

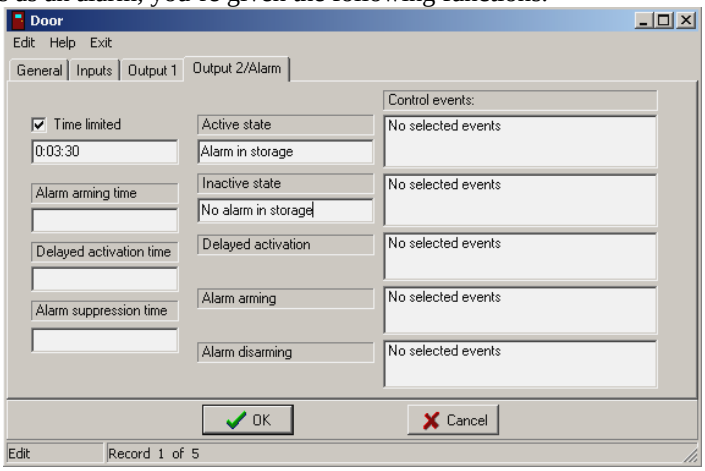


You can also enter detailed controlling, where you set the events which trigger the output to switch to active or inactive state.
In the »**Control events**« window you set which events activate a certain state of the output. Double-click the first line in the field, so that the »**Control**« window opens, where you can select the events.

OUTPUT 2/ ALARM

If you haven't checked the **»Alarm operation«** box in the **»General«** menu, output 2 will function the same way as output 1.

But if output 2 functions as an alarm, you're given the following functions.



Alarm can be set, so that it's triggered by the events you specify (see chapter Control module outputs) for example, if someone tries to open the door with an unauthorized key.

Active state:
It's a description of alarm function in words, for example: Alarm in storage. In the Control events (next to the Active state field) you specify the events which trigger the alarm. Double-click the »No selected events« text, so that the »**Control**« window opens. Choose the events, for instance "motion detected in storage" and move them to the »**Selected events**« window with an error. Confirm the selection by pressing the »**OK**« button.

Inactive:
It's a description of the state in words, when the alarm is turned off (Alarm in storage OFF). In the Control events set the events which turn the alarm off.

Time limited:
When this option is selected, the alarm will turn off after the time you specify.

Alarm arming time
This is the time between the activation of the alarm and the moment, in which the reader switches to active alarm readiness. Even in the active alarm readiness the selected events or the signals from sensors will trigger the alarm.
The point of the alarm arming time is that you're able to leave the room after you've armed the alarm without triggering the alarm.

Delayed activation time:
The alarm will go on a certain time after it's been triggered by the events or sensors.

The point of the delayed activation time is that you're able to deactivate the alarm after you've entered the room without the electronic key.

Alarm suppression time:
This is the time in which the alarm state is temporarily off after the door has been unlocked with an authorized key
The point of alarm suppression time is that you can enter the room with authorized keys without triggering the alarm. If the condition for the alarm still exists after that time has passed, the alarm will turn on.

Control events – delayed activation
Choose the events or signals, which will cause the delayed activation of the alarm.

Control events – alarm arming
Choose the events or signals, which activate the alarm state, ex.: arming the alarm with special key 1.

Control events – alarm disarming
Choose the events or signals, which will deactivate the alarm state, ex.: disarming the alarm with special key 2.

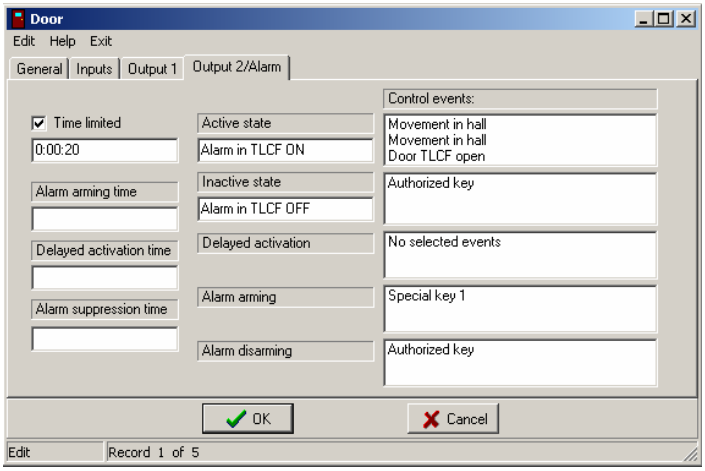
Example:

In our company, we have a teleconference room, in which we've placed two infra-red motion sensors. Only one door leads into the room, in front of which there's a reader. We wish that the alarm would go on for 20 seconds, as soon as someone would open the door or motion would be detected in the room. We also wish the alarm to be armed with special key 1 and disarmed with any authorized key. For that, we must complete the following steps:

1. In the »Active state« field we type the name of the active state of the alarm, which will be called »Alarm TLCF ON«, and in the »Inactive state« field we put »Alarm TLCF OFF«. That kind of event description is necessary for an orderly sorted report of the events on the security system.

2. We choose the control events, which we wish will trigger the alarm. We can choose any key, input and output. Since we wish, that the alarm is triggered when someone opens the door or motion is detected in the room, we choose the following control events: Movement in hall (for both sensors) and Door TLCF open. Alarm will be triggered any time one of these three events will occur.

3. Since we wish that the alarm is on only for 20 seconds, we check the »Time limited« option and in the field below we enter the desired time the alarm will last in the following format: *hh:mm:ss*.



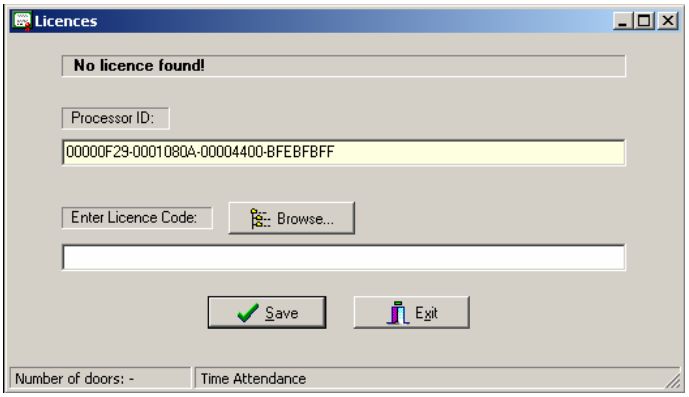
4. Now that we've set the events that trigger the alarm, we must set how to turn in off. In the »Control events« right of the »Inactive state« we choose that the triggered alarm can be turned off by any employee – owner of an authorized key.

5. The alarm will be armed when someone will use the special key 1 on the reader. Therefore we choose the Special key 1 as the control event for the »Alarm arming«. Once the special key 1 is used, the alarm is armed.

6. When we wish to use the teleconference room again, we'll need to disarm the alarm, so that it doesn't turn on as we walk in. In the »Alarm disarming« window we choose, that any authorized key can disarm the alarm.

3. Registering the program

To use the Manager program, you'll need to register your copy. Unregistered version allows the use of only one control module and one door, and warns you to register every 15 minutes. You can register the program by filling in the form »**Certificate for Manager – Paradox software**«, and send it by email to licence@bergant.com. You MUST enter the 32-digit processor ID of the computer, on which you want the Manager program to be installed. Your processor key is displayed by the program itself, as soon as you run the program.



Once your order has been approved, you'll receive your license key by email or on CD-ROM in form of a file or a certificate, with which you'll unlock the unregistered version of the Manager program and gain access to all its functions. You can enter the license key manually or click on the »**Browse**« button and choose the **licence.lic** file, which you've received over e-mail or on CD-ROM. If you've entered a valid license key, by pressing the »**Save**« button you'll unlock your copy of the Manager program.

Certificate for MANAGER – SINGLE USER software

PERSONAL and COMPANY INFO (filled by customer):

Please complete the form by filling in all the fields. When done, save the document and send it via e-mail to ***licence@bergant.com***.

COMPANY

COMPANY NAME:	COMPANY ADDRESS:	ZIP OR POSTAL CODE:	
CITY:	COUNTRY:	TELEPHONE:	TAX NUMBER:

CONTACT PERSON

FIRST NAME:	LAST NAME:	ADDRESS:
ZIP OR POSTAL CODE:	CITY:	COUNTRY:

E-MAIL ADDRESS:	TELEPHONE:

ORDER (filled by the distributor or customer):

NUMBER OF DOORS: DOORS
OPTIONS (Check the desired): ☐ TIME ATTENDANCE
PROCESSOR ID NUMBER: - - -

LICENSE KEY (filled by manufacturer):