Electronic Locking System (ELS) ELMcontrol Software User's Manual Version 1.47 04/2012



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1. Introduction

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5. System Overview

The *ELMcontrol* software allows easy configuration, control and monitoring of the CPI Electronic Locking System (ELS) from a computer with a Microsoft Windows[®] operating system.

The ELS includes a Communications Module (P/N 16147-050) and any combination of up to 64 Electronic Lock Control Modules (P/N 16147-052), 512 Electronic Lock Upgrade Kits (P/N 16147-060, 16147-061, 16147-062 and 16147-063), 64 Keypad Modules (P/N 16147-008) and 64 Proximity Card Reader Modules (P/N 16147-054). All modules connect with CAT 5 patch cords to form a Controller Area Network (CAN) Bus. (Keypad Modules connect with a special S1 to RJ-11 cable; one cable is included with the module.).

Data is exchanged between the computer hosting the *ELMcontrol* software and the Communications Module via an Ethernet LAN connection or a direct serial interface (RS232). The communications protocol is Simple Network Management Protocol SNMPv1 (RFC1157). (The Communications Module provides SNMPv1 and SNMPv2c to allow the integration of the system into third party SNMP manager programs.) The SNMP is available at the network interface as well as at the serial interface. The serial interface provides some additional configuration functions needed for the initial set up of the system (e.g. LAN IP address and workstation login passwords). For security reasons the data exchange is possible on authorized computers or by authorized persons, only.

The computer hosting the *ELMcontrol* software must be connected to the system before any configuration changes will take effect. The configuration settings for the ELS modules are directly checked and saved in the ELS modules by the *ELMcontrol* software.

6. Software Installation

The installation of *ELMcontrol* requires Microsoft Windows[®] 98, Microsoft Windows[®] ME, Microsoft Windows[®] NT 4.0, Microsoft Windows[®] 2000 or Microsoft Windows[®] XP on the workstation. The network protocol TCP/IP is required for Ethernet LAN connection to the ELS.

6.1. Installation from the CPI-ELMcontrol CD

- Put the CPI-*ELMcontrol* CD into the CD-ROM-drive. If the AutoRun feature for CDs is enabled, the *ELMcontrol* installation program ('Setup.exe') starts automatically. If you see a dialog box, then the installation program has started. If the installation program does not appear, then AutoRun may be disabled. In this case start 'Windows Explorer', double-click the CD-ROM drive to open it and double-click the 'Setup.exe' file to begin the installation.
- Click on the button **ELMcontrol installation**.
- Follow the installation instructions.

6.2. Download and Installation From the Website

- Download the *ELMcontrol* Software from CPI Website (<u>http://www.chatsworth.com/Support-and-Downloads/Downloads/Software/</u>). You will get a compressed file (ZIP format).
- Extract the contained files into a directory on your hard disk.
- Start the 'Setup.exe' file.
- Follow the installation instructions.

7. User Interface

The user interface of *ELMcontrol* includes different sections. In the left column there are alarm annunciators, settings for and display of data connections to the system, and event log controls.

In the top part of the right column there are several tabs for viewing, installing and controlling different components and features of the system (e.g. alarms, modules and handles).

Events, relevant processes, warnings and errors are indicated and recorded in the lower window.



7.1. Selection of the Workspace Language

The initial installation of *ELMcontrol* sets the workspace language to the language of the operating system. Currently *ELMcontrol* supports English, German, Italian and French. If the installation program detects an operating system of another language, English will be set as default. The preferred language can be selected in *ELMcontrol* as follows:

- Select the menu **Options** from the main menu strip.
- Select the menu entry Language.

The following window is displayed:



• Click the button of the language you want to select and click on **Ok**.

The change of language will take effect the next time the program is started.

7.2. Data Connections

Data is exchanged between the computer hosting the *ELMcontrol* software and the ELS modules via a network or serial interface with the Communications Module (P/N 16147-050).

A serial connection is required to configure a network IP address for the Communications Module and to select workstation login passwords. All other configuration data can be exchanged via the network or the serial connection.

7.2.1. Quick Guides for Getting Started

The following instructions give an overview of important settings that allow a data connection between *ELMcontrol* and the ELS modules. The following sections include a detailed presentation.

First, verify that the necessary cable connections are made, the ELS modules are on and *ELMcontrol* has been started on the workstation.

Nr.	WHAT TO DO?	НОМ	V TO DO?	WHEN TO DO?
1	Choose the serial port of the workstation to which the Communications Module is	Select Options / Configuration from the main menu.	view Options Help	Only necessary after an initial installation or if switching to another serial
	connected.	Click the Serial tab of the displayed window.	vork Serial Timing Ever.	port.
		Go to the COM PORT area and check the correct port.	COM 4 (available)	
		Click the Ok button.	Ok Cancel	

7.2.1.1. A Quick Guide for Setting up a Serial Connection

8	Activate the connection.	Click the activate serial line button in the DATA CONNECTION area of the user interface.	DATA CONNECTION C activate network C activate serial line C switched off State reading	Always necessary
3	Check the connection.	The Result field in the DATA CONNECTION area should show OK .	DATA CONNECTION C activate network C activate serial line State reading Result DK (3825 ms) Pelect ELM syster	

Nr.	WHAT TO DO?	НО	WHEN TO DO?	
1	Establish a serial connection to configure the IP properties of the Communications Module.	See section 7.2.1.1. <i>Jup a Serial Connectio</i>	A Quick Guide for Setting on, above.	Only necessary under the following conditions: -Initial
2	IP-Configuration of the Communications Module	Click the IP properties tab on the user interface.	urds Login Passwords IR Properties	installation -Exchange of the Communicati ons Module -Firmware
		Enter the IP address that should be used by the Communications Module into the IP address field of the IP PROPERTIES OF COMMUNICATION MODULE area.	IP PROPERTIES OF COMMUNICATION MODULE IP address 172 . 16 . 120 . 220 Subnet mast	update of the Communicati ons Module -If changing the IP configuration
		Uncheck at least one of the IP address is static check boxes in the PERMISSIBLE WORKSTATIONS area.	AUSSIBLE WORKSTATIONS Address and MAC addresses and MAC address informations of workstations of mac: rfs:- 255 .	

words IP Properties

Write changes to ELM system

ſ

IP PROPERTIES OF

7.2.1.2. A Quick Guide for Setting up a Network Connection

Click the Write

changes to ELM system button.

Nr.	WHAT TO DO?	HOV	V TO DO?	WHEN TO DO?
3	Setting a login password	Click the Login Passwords tab on the user interface. Enter a password for login level 10 into the corresponding input field of the LOGIN PASSWORDS area. <i>Remember the</i> <i>password. You will</i> <i>use the password to</i> <i>access the system</i>	LOGIN PASSWORDS Password Login le 	DO? Only necessary under the following conditions: -Initial installation -Exchange of the Communicati ons Module -Firmware update of the Communicati
		from a workstation.	$\begin{array}{cccc} & & & & & & \\ & & & & & & \\ & & & & & $	ons Module -To change login passwords
		Click the Write changes to ELM system button.	Login Passwords IP Properties changes to ELM system	

A Quick Guide for Setting up a Network Connection – continued

A Qı	uick Guide for	Setting up a	Network	Connection -	continued

Nr.	WHAT TO DO?	НОУ	V TO DO?	WHEN TO DO?
4	Include the name of the system in the list of ELM systems	Select Options / Configuration from the main menu.	view Options Help Configuration Language Alarms Open Har	Only necessary if the system is not already included in the list of
		Click the Network tab of the displayed window.	Eonfiguration Network Serial Timing Event Log EDIT LIST ENTRY Name IP ac Name IP ac Lea Community public Jublic LIST OF ELM SYSTEMS name IP address	ELM systems. If a serial data connection was established before, then a proper list entry already exists.
		In the EDIT LIST ENTRY area, enter a name for the system into the Name field and enter the IP address of the Communications Module into the IP address field. Click on the Update button. (The new entry appears in the LIST OF ELM SYSTEMS table.)	con r/k Serial Timing Event Log EDIT LIST ENTRY IP address IP address IP2. 1F Leave blan' address fir optic '' SYSTEMS '' SYSTEMS P'' optial Timing LIST OF ELM SYSTEMS Click on a row tk name IP address LLM system 1 172.16.120.220	If the name is a domain name which can be translated by DNS (Domain Name Service) into an IP address then entering an IP address is not required.
		Click the Ok button.	Update Remove	

Nr.	WHAT TO DO?	HOW	TO DO?	WHEN TO DO?
5	Select the system you wish to access from the ELM system list.	From the user interface, go to the DATA CONNECTION area and click on the arrow beside the field Select ELM system and select the system you wish to access from the list in the display.	Select ELM system ELM system 1 © select by name © select by IP address PROTOCO	Only necessary if the list of ELM systems contains more than one sysem, and the system required is not selected. If a serial data connection was established to the system before, then the system is already selected.
6	Activate the connection.	From the user interface, go to the DATA CONNECTION area and click on the activate network button	DATA CONNECTION Cactivate network Circlivate serial line Circlivate Circlivate	Always necessary
7	Check the connection.	The Result field in the DATA CONNECTION area should show OK . The workstation is connected to the system (Communications Module) with a network connection using the ELMcontrol software.	State PAUSE Result OK Select ELM system ELM system 1 © select by name select by IP address	

A Quick Guide for Setting up a Network Connection – continued

Nr.	WHAT TO DO?	HOW TO DO?	WHEN TO DO?
8	Login to the system	ELMcontrol Error (909): You don't have any permission to read these data. Your login level is not suff OK	Only necessary if this message box is displayed.
		Click the Ok button to quit the message box.	This is always the case after
		LEVEL area on the user interface.	initial installation or after a firmware
		Login to ELM system Login mode Authorization with user name and password from user list Authorization as administrator Authorization as backup operator "BckpAdm" Login with workstation-password User name Password Ok Cancel Select the button: Login with workstation-password (entered at number 3 above) and click the Ok Button.	update of the Communicati ons Module.
9	Check the login level.	The authorized level is shown in the LOGIN LEVEL area of the user interface.	

A Quick Guide for Setting up a Network Connection - continued

7.2.2. Setting Up a Serial Connection

Install the *ELScontrol* software on a workstation following the steps in section 6. Then, connect the Communications Module to the workstation using the included Null Modem Cable. Use the *ELScontrol* software to configure a serial connection as follows:

- Select the menu **Options** from the main menu.
- Select the **Configuration** menu.
- Click the **Serial** tab of the displayed window.
- Select the serial port where the Communications Module (P/N 16147-050) is connected to the workstation and click on **Ok**.

	СОМ РС	IRT	
Not selected	•	Recheck availability	

After selecting the serial port, activate the data connection as follows:

• To start the system scan click the button **activate serial line** in the **DATA CONNECTION** area on the user interface.



The **State** field in the area **DATA CONNECTION** shows the current scan in process. The **Result** field indicates whether the last scan cycle was free of error and how much time the cycle took.

The system connected to the serial port is automatically added to the list of selectable ELM systems in the **DATA CONNECTION** area and is displayed under **Select ELM system**.

7.2.3. Setting Up a Network Connection

7.2.3.1. Network Setup of the System IP Properties

The Communications Module (P/N 16147-050) must be IP-configured through a serial connection before a network connection can be established. Basic configuration requires the setting of an IP address, workstation permissions and at least one login password.

Set up a serial connection between a workstation with the *ELMcontrol* software and the Communications Modules (see section 7.2.2. Setting up a Serial Connection).

Click the index-tab **IP Properties**, that leads you to the below index card.

IS PAGE	REQUIRES SERIAL COMMUNI	CATION.			1	Write changes to
PERMIS	SIBLE WORKSTATIONS		Alarm 1 Traps	Alarm 2 Traps—	Current login	ELM system
Number	in IP addresses and MAC	IP address	Send repetition	Send repetition	level	
addres: table	s address informations or work stations	is static	/ Time till next (min) (min)	/ I me till next		COMMUNICATION MODULE
1	192 168 3 30	× ×	5 1		10 -	IP address
	mac:00-02-3E-B9-D7-4D rfs:0					192 . 168 . 3 . 39
2		Γ×	<u></u>	··· - ···		Port 161
2	mac:00-00-00-00-00-00 rfs:- dpr	:9				Subnet mask
3	172 . 16 . 6 . 111	□ ×	<u></u>	<u></u>	5 -	255 255 255 0
-	mac:00-00-00-00-00-00 rfs:- dpr	:10				Default estaurou
4	255 . 255 . 255 . 255	× ×				
	mac:- rfs:-					132.100.3.4
5	255 . 255 . 255 . 255	▼ *				SNMP community
	mact- rfst-					public
6	255 . 255 . 255 . 255	▼ *				Administrator password
	mact- rfst-					public
7	255 . 255 . 255 . 255	▼ ×				Eutomational lines 10
	mact- rfst-					
8	255 . 255 . 255 . 255	▼ *				MAC address
	mac:- rfs:-					00-50-C2-1E-D0-1D
9	255 . 255 . 255 . 255	▼ *		0 🕂 .	0 루	EMKA Electronic Locking
	mac:- rfs:-	_				Modules V1.14.2.42,
10	255 . 255 . 255 . 255	× V				H1m14v3e0c20009p4390804-(
	mac:- ifs:-					

The index card **IP Properties** allows configuration of all network parameters used by the Communications Module. The settings from this index card are stored in the Communications Module.

The area **COMMUNICATION MODULE** includes the following settings:

IP address

Enter the IP address of the Communications Module.

<u>Port</u>

Enter the port number that the Communications Module will use. The SNMP standard port is 161.

Subnet mask

Set up of a subnet mask is required if the Communications Module will send SNMPtraps.

Default gateway

The IP address of the gateway is required if the Communications Module will send traps to targets located in a different network.

SNMP community

Enter the default SNMP community string that will be accepted by the Communications Module.

Administrator password

Enter the administrator password. For more information about login as administrator see section 7.3. Permissions.

Note, that a workstation login ["login as workstation"] is not possible if the SNMP community is different from the administrator password. The different login methods are explained in section 7.3.1. Login Methods.

External level limit

Enter the maximum permitted login level when accessing the system from the WAN (wide area network).

MAC address

The MAC address of the Communications Module is shown for information purposes only, no changes are possible.

Version

Displays the actual hardware and software version of the Communications Module.

The area **PERMISSIBLE WORKSTATIONS** list the workstations that can exchange data with the Communications Module and receive SNMP-traps. Designate a specific IP address for each workstation, how often SNMP-traps are sent to the workstation and a login limit for the workstation as follows:

IP addresses and MAC address information of workstations; IP address is static

To allow a specific workstation to access the system, enter the static IP address of the workstation and check the button **IP address is static**. This space will be reserved for the workstation. **Traps can be sent to workstations with static IP addresses, only.**

If you delete the check mark under **IP address is static**, the Communications Module automatically enters the IP address of a workstation that successfully logs-in by means of a valid **workstation password** (see section 7.3 Permissions). This process allows the use of workstations that get a changing IP address by means of DHCP (Dynamic Host Configuration Protocol). To those workstations, however, the system cannot send any traps. If all of the "dynamic chart positions" are filled, the oldest entry will be deleted when a new workstation successfully logs on.

Below every IP address field the MAC address of the workstation (**mac**) and the last data exchange with the workstation in minutes (**rfs**) is shown. For a "dynamic chart position" there is an additional display of the dynamic priority (values **0** to **10**) for the corresponding workstation (**dpr**). If all chart positions are full, the "dynamic workstation" with the lowest priority is automatically deleted from the chart when an additional workstation that is not listed in the chart successfully logs on.

Alarm Traps can be designated for workstations with static IP addresses, only.

Alarm 1 Traps – Send repetition

Enter the interval in minutes for traps being sent by the system to the corresponding workstation when the condition of alarm line 1 is **active** or **latched** (see section 7.9. Configuration of Alarm). The interval can be **1** to **254** minutes. No trap is sent if the value is **0**.

<u> Alarm 1 Traps – Time till next</u>

This display shows the time in minutes remaining until the next trap is sent when alarm line 1 is **active** or **latched**.

Alarm 2 Traps - Send repetition

Enter the interval in minutes for traps being sent by the system to the corresponding workstation, when the condition of alarm line 2 is **active** or **latched** (see section 7.9. Configuration of Alarm). The interval can be **1** to **254** minutes. No trap is sent if the value is **0**.

Alarm 2 Traps - Time till next

This display shows the time in minutes remaining until the next trap is sent when alarm line 2 is **active** or **latched**.

Current login level

This display shows the current login level of the workstation. The selected level is active until the next login by workstation password from this workstation (see section 7.3 Permissions).

All changes in the input fields become effective only after a click on the button **Write changes to ELM system.** If you fail to click this button all changes are lost as soon as you leave the index card **IP Properties.**

7.2.3.2. Network Setup of a Workstation

Workstations that connect to the system through the network (LAN) must be configured for network connection using the TCP/IP protocol. Installation and configuration of the TCP/IP-protocol is explained in the documentation for the Windows[®] - operating system. The IP address of the workstation may be static or assigned by a DHCP-server. The workstation must be on the same LAN as the Communications Module.

More than one system can be accessed through the LAN from the workstation. The *ELMcontrol* software creates a list of systems and stores the list on the workstation.

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Every list entry contains a name, IP address, IP port, a SNMP community string and a MAC address. The name of the selected list entry is shown in the title strip of the user interface. All data and operations in the display refer to the selected system that is currently active. Referring to the relevant list selection *ELMcontrol* stores some status information in the workstations registry memory.

To establish a network connection between *ELMcontrol* and a system an entry representing the system must be included in the list of ELM systems. Each entry represents a different Communications Module and associated ELS modules. Such an entry is automatically made during a serial connection. You can add to, review and edit the list of ELM Systems as follows.

Reviewing the ELM System List

- Select **Options** from the main menu strip.
- Select Configuration.
- Click the index tab **Network** on the display.

You will get to the following window:

Name	IP address	Port	New/Update
Community	Leave blank to retrieve IP address from name by DNS	161	Bamova
public			
IST OF ELM SYSTEMS	Click on a row to edit an entry.		
name IP address por	community MAC address		

• For each system, add an entry to the list as follows:

New entry:

- Enter a name for the system in the field **Name**. This is the name that will be displayed on the user interface.
- Enter the IP address of the Communications Module of the system in the field IP address. If the name is a domain name that can be translated by Domain Name Service (DNS), leave the IP address field blank.

- Enter the **Port** which is used by the Communications Module. Default is 161.
- Click the Update button. The entry appears in the table LIST OF ELM SYSTEMS and in the drop down list in the DATA CONNECTION area of the user interface.

For example, the following illustration shows a list with three systems to manage. Please be aware that the MAC address is automatically added by *ELMcontrol* as soon as a data connection has been set up.

Name ELM system 3/Room	5 IP ar 5 17 Leav addr	IP address Port 172 . 16 . 120 . 220 Leave blank to retrieve IP address from name by DNS		Port 161	New/Jupdale
IST OF ELM SYSTEMS	Click of IP address	on a row to edit an	entry.	1955	
ELM system 1 ELM system 2 ELM system 3/Room 5	172.16.120.200 172.16.120.210 172.16.120.220	161 public 161 public 161 public 161 public	? ? ? ?	1033	
LM system 3/Room 5	172.16.120.220				

To edit an entry:

- Click on the row in the table that you want to edit.
- Make changes in the **EDIT LIST ENTRY** fields.
- Click the **Update** button.

To remove an entry:

- Click on the row in the table that you want to remove.
- Click the **Remove** button.

After all systems have been entered click the **Ok** button to close the window **Configuration**.

7.2.3.3. Switching Between ELM Systems

• Go to the user interface, to the area **DATA CONNECTION** and click on the arrow beside the field **Select ELM system** and select the system from the list in the display that you want to access. Each system name represents a different Communications Module and associated ELS modules.



Select the IP address (**select by IP address** button) or by means of the name of system (**select by name** button).

You can easily switch over from one system on the list to another. All data exchanged over the LAN is related to the selected system. If there is only one system on the list it is automatically selected.

7.2.3.4. Activating the Network Connection

• To start a scan of the selected system go to the area **DATA CONNECTION** on the user interface and click the button **activate network**.



The **State** field in the **DATA CONNECTION** area shows the current scan process. The **Result** field indicates whether the last scan cycle was free of error and how much time the cycle took.

• Login to the system (see section 7.3. Permissions).

7.2.4. Setting Up Timing Conditions

Once a data connection is made, the data from the system is read in cycles.

To set or edit Timing Conditions:

- Select the menu **Options** from the main menu strip.
- Select Configuration from the menu strip.
- Click the index tab **Timing** in the display

Paus 100	e between scan (0 ms	cycles			
Max.	time to wait for re	sponse from ELM	1 system (timeout)		
÷ 300	0 ms				
Max.	number of repetit	ions on timeout			

- Set the variables as follows:
 - Scan between scan cycles defines the length of time between each scan cycle. The scan pause influences the data update rate and the load of data connections. The scan pause is preset at 1000 ms (1 s). It can be set between 50 ms and 9950 ms.
 - Maximum time to wait for response from ELM system (timeout) defines the length of time the software will wait for a response from the Communications Module. The timeout is preset at 3000 ms (3 s). It can be set between 50 ms and 9950 ms.
 - Maximum number of repetitions on timeout if the Communications Module does not respond by the timeout, the request will be repeated this number of times. A warning message is recorded in the event log with each request. When the maximum number is reached, the request is

ended and an error message is recorded in the event log. The preset number is 4. It can be set between 0 and 99.

• With a click on the **Ok** button the changed values are taken over and the window **Configuration** is closed.

7.3. Permissions (Login Levels)

A user's **login level** determines the type and amount of data exchanged between *ELMcontrol* (as well as other PC applications) and the ELS.

The current login level is shown in the area LOGIN LEVEL on the left side of the screen.

There are eleven login levels numbered from 0 - 10. The degree of permission increases with a higher login level number. Level 0 (standard setting) stands for basic system-identification. Reading data requires level 1. Writing data requires level 2. Unrestricted access requires level 10 – the highest login level.

For the Standard-Firmware-Version of the Communications Module (16147-050), the permissions for reading and changing the access codes or Access Control Numbers (ACN) for the handles/electronic locks change with each login level. Each handle can have five access codes (ACN 1, ACN 2, ACN 3, ACN 4 and ACN 5). Input of an access code number for opening a handle by means of a workstation login is possible with login level 1 or higher (see section 7.5. Configuring Handles and section 7.6. Open Handles). Permissions for reading and changing access codes (ACN) for other login levels are defined in the table on the next page.

The individual login levels are provided the following permissions:

	Login Level	Permissions			
No.	This level applies under following conditions:	Scan data from ELM system	Write data to ELM system		
0	Pre-settings, workstation unknown or login with unknown password	No data readable - with exception of the system identification	No data writable		
1	Login with login password for level 1	Data completely readable - with exception of the access codes for handles and the user passwords	As level 0		
2	Login with login password for level 2	As level 1	Data completely writable - with exception of the access codes for handles and the user passwords		
3	Login with login password for level 3	As level 2	As level 2		
4	Login with login password for level 4	Data completely readable - with exception of access codes ACN 2, ACN 3, ACN 4, ACN 5 for handles and the user passwords	Data completely writable - with exception of access codes ACN 2, ACN 3, ACN 4, ACN 5 for handles and the user passwords		
5	Login with login password for level 5	Data completely readable - with exception of access codes ACN 3, ACN 4, ACN 5 for handles and the user passwords	Data completely writable - with exception of access codes ACN 3, ACN 4, ACN 5 for handles and the user passwords		
6	Login with login password for level 6	Data completely readable - with exception of access codes ACN 4, ACN 5 for handles and the user passwords	Data completely writable - with exception of access codes ACN 4, ACN 5 for handles and the user passwords		
7	Login with login password for level 7	Data completely readable - with exception of access code ACN 5 for handles and the user passwords	Data completely writable - with exception of access code ACN 5 for handles and the user passwords		
8	Login with login password for level 8	Data completely readable - with exception of the user passwords	Data completely writable - with exception of the user passwords		
9	Login with login password for level 9	Data completely readable - with exception of the user passwords	Data completely writable - with exception of the user passwords		
10	Login with login password for level 10	No limitations	No limitations		

7.3.1.Login Methods

There are four login methods for the system: login as workstation, login as user and login as administrator.

7.3.1.1. Login as User

On the Login Passwords tab you can manage a list of up to 100 user accounts. Each user account has a name, a password and login level. Management of the user list is possible via a serial or network connection. Details are covered in section 7.3.2.2. 7.2.3.2. User Management. Reading the user passwords and writing to the list requires login level 10.

A user login requires a matching name and password.

The **name of the user** will be included in event log entries for actions triggered by the user (e.g. opening of a door).

A login level assigned to a user is typically assigned to a single application program. Different application instances running on the same workstation may have different user logins and therefore may run with different login levels. The authorization is made by means of the SNMP community string of SNMP data requests.

7.3.1.2. Login as Administrator

By applying the administrator password the login level 10 is assigned. The administrator password is set using a serial connection. See section 7.2.3.1. 7.2.3.1. Network Setup of the System IP Properties for details.

Note, that a "login as workstation" is not possible if the SNMP community is different from the administrator password.

7.3.1.3. Login as Backup Operator

The backup operator is able to perform system backup and restore operations only. See section 7.4.4 Configuration Data Files.

A user named "BckpAdm" must be defined and login level 10 must be assigned to this user. See section 7.3.2.2. 7.2.3.2. User Management for details of how to define a user login.

7.3.1.4. Login as Workstation

On the Login Passwords tab there is a chart at the right side of the screen with 10 passwords called the **workstation login passwords**. Each workstation password is linked to a different login level. Assign workstation passwords using a serial data connection as explained in section 7.3.2.1. Workstation login passwords.

The workstations that are allowed to logon to the system are listed on the IP Properties tab in a table at the left side of the screen named **permissible workstations** as explained in section 7.2.3.1. 7.2.3.1. Network Setup of the System IP Properties.

When a workstation login is used, the login level is the level defined by the workstation password from the Workstation Login Passwords table on the Login Passwords tab. Login is allowed if the password matches and if the workstation is listed in the Permissible Workstations table on the IP Properties tab. If the workstation is not listed in the Permissible Workstations table and the workstation password is valid, it will be listed in the table if there is a dynamic address position available. Note that the workstation IP login level can be changed with a serial connection at the IP Properties tab. The login operation is covered in section 7.3.3. Login to the System.

When using a workstation login, the **IP address of the workstation** will be included in event log entries for actions triggered from that workstation (e.g. opening of a door).

A login level assigned to a workstation applies to all application programs running on that workstation because the authorization criterion is the source IP address of SNMP data requests.

7.3.2. Login Passwords

Users and passwords are entered on the index card **Login Passwords**. The only exception is the administrator password, which has to be specified on the index card **IP Properties** (see section 7.2.3.1. 7.2.3.1. Network Setup of the System IP Properties.

• Click the index tab Login Passwords.
HE V	NOF	iksi	TATION LUGIN PASSWORDS REQUIRE SERIAL COMMONICATION.						EA -		
			USER MANAGEMENT					255 D			
	EDI	IT SE	LECI	ED USER		Pa	sswor	d ×	Level		Write changes to ELM system
			Elser	name -		Passwor	d íren	- ×			
				(ADE		17 10 405	a (rob	· ·			
			ŕ					r ccc			WORKSTATION LOGIN PASSWORDS
	ISEF	RS (Click	k on	a row to select a user. ("	The A	dministrator car	nnot be selected or chang	ed.)	Password Level
	nr.		u	name	р	APF (Access Pe I	evel	access fro	time of last access	- 1	h7ax> 1
		1	1	Administrator	×	FF FF FF [11111	10		2006/06/16:09:53		
		2	3	J-Carol	×	- 00 00 00 (00000 🗡	8	000.000.0	2006/06/16:09:52		19pq> 2
	6	4	4	J-Walker	×	00 00 00 (00000 8	10	÷-	-		> 3
	9	5	5	K-Smith	×	00 00 00 (00000 🥖	> 5	-0-			> 4
											z7vq> 5
											> 6
											> 7
											> 8
											> 9
		A -							Delete celested was	- 1 I	7zbkl3og> 10

7.3.2.1. Workstation Login Passwords

Workstation login passwords are entered in the area **Workstation Login Passwords** on the right side of the Login Passwords tab using a serial connection. Enter a password into the corresponding input field for each level that requires a workstation login. The password may include letters and numbers and must have a minimum of four and a maximum of eight characters.

A serial connection is required.

All changes become effective only after clicking the button **Write changes to ELM system** button. If this is not done changes will be lost.

7.2.3.2. User Management

User accounts are entered in the area **User Management** on the Login Passwords tab. The administrator is listed here also. The administrator entry cannot be changed or deleted.

The table **Users** shows all registered users of the system. You can sort the list according to each of the represented columns by clicking on the respective top of the column. Click again on the same place and the order is reversed.

The table contains the following information:

<u>Number</u>

A consecutive number makes navigation within the table easier.

User ID-Number

The number of the table row which stores the data of the user is displayed for information.

<u>Name</u>

This is the name of the user. Names have to be unique. The name is used for login and will be included in certain event log entries.

Password

This is the individual password for login.

APF (Access Permission Flags)

These 24 flags form a method of authorization for opening a handle or latch. Each of the 24 flags can independently be set or deleted. Each handle or latch (see section 7.5. Configuring Handles and Latches) also has 24 flags called the **ARF** (Access Requirement Flags).

The opening of a handle is permitted when a user APF matches a handle ARF. With the help of the ARF/APF you can form groups from handles and users with different opening permissions which can be subdivided hierarchically.

Level

The login level which the user can attain at the login procedure. Different supplementary symbols show a rough survey of the kind of the permission which is assigned to the login level.

Access from IP socket

The address and the port number of the workstation from which the user accessed the system last is displayed here.

Time of last access

The last access time of the user is shown. If the time is less than a minute, the symbol is displayed to show which users are currently operating.

Adding users

• Click the button Create new user.

A new user entry is added to the list. As name the standard name "user" appended by an ongoing number, is applied.

Then change the settings of the new user entry according to your needs, as follows.

Change settings

• To change the settings for a user first select the entry that shall be modified by a click with the left mouse button on the corresponding row in the table.

	IIX.J	IAIIC	in Louin I Ad		U	SER MANA	AGEMEN	nimonaic. T	SHON.					
ED	IT S	ELEC Use 2	TED USER rname J-Wa 24 - APF	ker	17 16	Pass	Passwo word (rep 9F -	rd **** .) **** 9 8		APF -	Level	1	Write changes to E	LM syster
													WORKSTATION PASSWOR	I LOGIN
JSE	RS	<u> </u>	Cli	ck on	a row to :	select a us	er. (The A	Administra	ator can	not be selec	ted or changed		Password	Level
	1 2 3	1 2 3	Administrato F-Meier	r × × ×	FF FF F 00 00 0	F (11111 0 (00000	. <mark>8</mark> 10 . <u>9</u> 1	000.00	0.0 0.0	2006/0	6/16;09:54	•	h7gx 9pq	> 1 > 2
	4 5	<u>4</u> 5	<u>J-Walker</u> K-Smith	× _ ×	<u>00 00 0</u>	<u>0 (00000</u> 0 (00000	1 1 1 1 1	<u>+</u> +		:				> 3 > 4
													z7vq	> 5
														> 7
														> 8
	A	dd ne'	w user number						[)elete selec	ted users		7zhkl3og	> 10

In the area EDIT SELECTED USER the parameters of the user entry can be changed.

- The sum of the name and password must not exceed 15 characters in length.
- Adjust the desired login level. You can disable a user account without deleting it from the list by putting the level on 0 (this is the presetting when adding a new user entry.)
- Mark all the flags of the APF which you want to set.
- After the chosen changes have been made click on the button Write changes to ELM system.

The table is updated after the next reading cycle (scan).

If the button **Write changes to ELM system** is not clicked any changes made are dismissed as soon as you select another user entry or if you leave the index card **Login Passwords**.

Deleting users

- First select the desired user entry by clicking with the left mouse key on the desired entry in the table. With the control key (Ctrl) or the shift key pressed at the same time you can select several entries or areas.
- Click the button **Delete selected users**.

If you add a new user number equal to an existing user number, the older entry will be deleted.

7.3.3. Login to the System

You must have a valid workstation or user password to login to the system.

• Click on the **change** button in the area **LOGIN LEVEL** on the user interface.



The following input-window is shown:

.og	n mode
e	Authorization with user name and password from user list
¢	Authorization as administrator
c	Authorization as backup operator "BckpAdm"
c	Login with workstation-password
	User name

Choose the desired login method (see section 7.3.1. Login Methods). Enter a valid password. A user login requires the user name and password. Click on the **Ok** button. The corresponding login level is shown in the **LOGIN LEVEL** area of the user interface.

The new login level reverts to **0** if the password is not accepted.

7.4. System Configuration With the System Manager

The index card **System Manager** allows the entire configuration of the system. The System Manager can only be used with a high login level.

The system is presented from the point of view of a physical structure. All modules are shown with their components (e.g. Handles). For a better survey modules can be grouped with "cabinets".

On initial startup of a system it is necessary to register all modules (except the Communication Module) in the System Manager. The following section (7.4.1 Presentation of the System-Structure) explains the presentation of a configured system within the System Manager. The following section (7.4.2 Configuration of the System-Structure) gives examples of the individual steps necessary for registering and activating ELS modules.

7.4.1. Presentation of the System Structure

All cabinets and modules of the system together with the corresponding peripheral components are shown in the **ELM SYSTEM STRUCTURE** area of the index card System Manager in a hierarchic structure (tree-structure).



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The nodes of the tree which are subdivided into sub-nodes have the symbols "+" or "-", respectively. A mouse-click on this symbol shows or hides the sub-nodes.

The nodes of the tree-structure have different parameters. A node can be selected by mouse-click. The parameters of the selected node are shown in the area **PARAMETERS.**

- Parameters which are marked by the symbol C can be changed. You can change the value of these parameters by clicking on the value in the display. You will then see an input-field to which another value can be entered. For completion press ENTER or mouse-click beside the input field. The new value is then automatically transferred to the ELM system.
- Parameters which are marked by the symbol X are currently blocked for an input. Other parameters must be set before changing these parameters.
- Parameters with the symbol P are only shown, they cannot be changed. The symbol O refers to missing authority for the display of the value.

The first parameter of a node is the **Description**. *ELMcontrol* automatically generates a description for every node which gives information about the relevant values and the most important parameters. This automatically generated description is placed in parenthesis; it can be replaced by your own text. If all characters of the description are removed *ELMcontrol* will enter the system-generated description.

The description can also be seen at the tree-structure on the right hand side beside the node-type symbol. On the left hand side beside the node-type symbol you will find a symbol that informs of the status of the node.

The tables below explain the meaning of the symbols for node-types and status in the tree-structure:

Node-	Meaning of the	Parameter within the	Stat	us symbols and
type-	node	automatically	mea	ning
symbol		generated description		-
<u>.</u>	All cabinets of the system, root node of the whole structure	-	2	Cabinets and modules are activated and they are running trouble- free.
			!	At least one activated module within one cabinet is defective.
			8	At least one activated module within the whole system reports active alarm.
			8	At least one activated module within the whole system reports latched alarm
			9	The status of at least one module within the whole system is unknown.
			×	At least one module of the system is ready for activation.
			X	At least one module of the system needs further configuration in order to be ready for activation.
			8	At least one module of the system has been disabled due to an addressing conflict with another module of the same type.

Node-	Meaning of the	Parameter within the	Stat	us symbols and
type-	node	automatically generated	mea	ning
symbol		description		
-D-	Cabinet	Number of cabinet	2	Modules of this cabinet are activated and they are running trouble- free.
			•	At least one activated module within this cabinet is defective.
			0	At least one activated module within this cabinet reports active alarm.
			0.	At least one activated module within this cabinet reports latched alarm
			ę	The status of at least one module within the whole system is unknown.
			×	The cabinet contains at least one module ready for activation.
			14 14	At least one module of the cabinet needs further configuration in order to be ready for activation.
			0	At least one module of the cabinet has been disabled due to an addressing conflict with another module of the same type.

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Node- type- symbol	Meaning of the node	Parameter within the automatically generated description	Stat mea	tus symbols and aning
	Communications Module	-	3	The module is running trouble-free.
	(P/N 16147-050)		:	The module is defective.
			8	At least one of the two alarm lines reports active alarm.
			8	At least one of the two alarm lines reports latched alarm.
			?	The status of the module is unknown.
			X	There is no valid firmware running on the module.

Node-	Meaning of the	Parameter within the	Stat	us symbols and
type-	node	automatically generated	mea	ning
symbol		description		-
	Electronic Lock	Area of handle numbers,	2	The module is running
	Control Module for	position of the six CAN-		trouble-free.
	8 swing handles	address switches		The module is
	(P/N 16147-052)			defective.
			8	At least one handle or
				latch of this module
				reports active alarm.
			8	At least one handle or
				latch of this module
				reports latched alarm.
			?	The status of the
				module is unknown, or
				the module was not
				completely configured.
			X	The module is not
				activated, but it is
				ready for activation.
			XL	The module needs
				further configuration in
				order to be ready for
			-	activation.
			8	The module has been
				disabled due to an
				addressing conflict
				with another module of
			~	the same type.
			74	The module is
				currently in detection
				mode.

Node-	Meaning of the	Parameter within the	Stat	us symbols and
type- symbol	node	automatically generated description	mea	ning
-#	Keypad Module (P/N 16147-008)	Number of the keypad station (component	ø	The module is running trouble-free.
		number), position of the six CAN-address	8	The module is defective.
		switches	6 2	The status of the module is unknown, or the module was not completely configured.
			×	The module is not activated, but it is ready for activation.
			XL	The module needs further configuration in order to be ready for activation.
			00	The module has been disabled due to an addressing conflict with another module of the same type.
			A	The module is currently in detection mode.

Node- type-	Meaning of the node	Parameter within the automatically	Stat mea	tus symbols and aning
	Proximity Card Reader Module	Number of the reading station (component	2	The module is running trouble-free.
	(P/N 16147-054)	number), ID-number of the card at the reading	8	The module is defective.
		station, position of the six CAN- address switches	8	The status of the module is unknown, or the module was not completely configured.
			×	The module is not activated, but it is ready for activation.
			X	The module needs further configuration in order to be ready for activation.
			0	The module has been disabled due to an addressing conflict with another module of the same type.
			2	The module is currently in detection mode.

Node-	Meaning of the	Parameter within the	Stat	us symbols and
type-	node	automatically	mea	ning
symbol		generated description		
F	Swing Handle with	Handle/latch number,	a	The handle/latch is
	electronic lock	present status:		open.
		open/closed		The handle/latch is
	Made with:			closed.
	Electronic Lock			
	Upgrade Kit			
	(P/N, 16147-060,		8	The handle/latch
	16147-061, 16147-			reports an active
	062, or 16147-063)			alarm.
			8	The handle/latch
				reports a latched
				alarm.
			•	Number and status of
				the handle are
				unknown. (The handle
				module was not
				completely
				configured.)

Node-type- symbol	Meaning of the node	Parameter within the automatically generated description	Stat mea	tus symbols and aning
₿₩₩	Access Code Number (ACN) for a swing handle	Number of the access code, related swing	Ø	The access code was registered and can be used.
		handle number, digit string of the ACN	ę	The status of the access code is unknown.
			\times	The access code was not registered.
			8	The registered digit string of the access code consists of more digits than allowed,

The sequence of the modules within each cabinet corresponds to the sequence of modules listed in the module table. By checking the **Sort** button in the area **SORT MODULES** the sequence can be changed. By means of the buttons **ascending** / **descending** the sorting order of modules can be reversed. Cabinets are always sorted in ascending order.

A corresponding lexicographical sorting of descriptions of the nodes is carried out.

In the area **SEARCH SYSTEM STRUCTURE** you can enter a sequence of characters, activate the button **search** and this entry is searched among all node names. The first node to be found is shown and checked. Repeat the **search** to find further results.

You can change the assignment of a module to a cabinet by using *Drag&Drop* for shifting the module node to another cabinet node. To shift a module node, click and hold the left mouse button on the corresponding module node, drag the node to another cabinet node, and unclick the mouse button.

7.4.2. Configuration of the System Structure

At the first application of an **ELM system** there are no modules included in the system structure of active modules, except for the Communications Module.

ELMcontrol automatically generates the node **Cabinet 1** as a sub node of the **ELM system** root node, and assigns the Communications Module to this node.

Alarms Open Handles Config Handles Sensors Da	te/Time System Manager	Proximity Cards [Login Password	ds Properties
ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value.
ELM system - activated modules)		value	name of parameter
🖻 🕪 🖊 🚽 (Cabinet 1)		🧷 (Communication module)	description
Communication mo	dule)	р ок	module status
		🔎 0d, 0h, 31m, 4s	SNMP:sysUpTime
			SNMP:sysContact
			SNMP:sysName
			SNMP:sysLocation
		V1.14.2.55	hirmware version
		C 540	04 specific reatures
		/ 1000	total capacity of gener
		76	current number of save
		D 10466 / 397708	total capacity of the ev
		Xidle	current state of alarm I
		0	description of alarm lin
		🧷 yes	latch mode of alarm lin 💌
			<u> </u>
		SORT MODULES	escending
		🔽 Sort	C descending
			1105
		SEARCH SYSTEM STRUCT	
		1	Search
	1		

7.4.2.1. Scanning the System for Modules

• Click with the <u>right</u> mouse button on the node **ELM system**.

A context menu is opened.

Alarms Open Handles Config Handles Sens	sors Date/Time System Manager	Proximity Cards Login Pas	swords IP Properties
ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value.
ELM system - activated [New Cabinet	Value	name of parameter
Commun	Save configuration to file		
	Show only activated Modules		
	Scan for all Modules		
	° х		
		•	
		SORT MODULES	• ascending
		Sort	C descending
		SEARCH SYSTEM STE	BUCTUBE
			Search

Choose Scan for all Modules

A search process is started. All found modules are displayed. These modules are assigned by default to the cabinet which contains the Communications Module.

LM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry) to edit a value
Cabinet 1) Communication Cabinet 1) Communication Cabinet 1) Communication Cabinet 1) Communication C	n module) module 8X [?-?] / switch:000001) module 8X [?-?] / switch:000010] module 8X [?-?] / switch:000011] module 8X [?-?] / switch:001100] e nr. ? / switch:000001] e nr. ? / switch:2] le nr. ?/ - / switch:000001]	value (Handle/Latch module ? 000001 66240 no no no ? ? no no ? ? no no ? ? no no ? ? ? no no ? ? ? ? ? ? ? ? ? ? ? ? ?	name of 8% (?-?) descript first han last han address serial nu dynamic valid dy disablec registere firmware informat ete confi module	parameter ion dle number dle number setting on mode imber adressing ena namic address l because of C ad address swit version ion about this u status
		SORT MODULES	i ascending	
		SEARCH SYSTEM STR	UCTURE	

At the first application none of the found modules are activated except for the Communications Module.

The activation of modules as well as registering further cabinet nodes to the system structure is shown below with examples.

7.4.2.2. Activation of Modules

• After a scan operation, click on a module you want to activate.

Activating Keypad Modules (P/N 16147-008)

In the following example the last of the two Keypad Modules of the list is used. This module is prepared for "dynamic addressing". Before activation an address and a component number must be assigned to the module.

• Click on the **PARAMETER** value address setting on module

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value.
E Kathan (ELM system - all modules)		value	name of parameter
Cobinet 1) Communication module) Communication module Communication module Generation Generation	Keypad module nr. ? ? 7800 9 yes 9 no 9 no 9 ? ? ? 9 ? ? not activated / incom	description number of component address setting on module (by swit serial number dynamic adressing enabled valid dynamic address assigned disabled because of CAN-bus-add registered address-switch-setting in firmware version information about this unit module status	
			<u> </u>
		SORT MODULES	ascending
		I Sort	C descending
		SEARCH SYSTEM STRU	ICTURE Search

- Enter a binary address for the keypad module into the input field. The value you are putting in must be between **0** and **111111** (leading zeros can be left out). This corresponds to a decimal range of 0-63. The address must be different from the addresses of all other Keypad Modules in the system.
- Complete your input with ENTER or by mouse click beside the input field.
- Click with the <u>right</u> mouse button on the node **ELM system** and select **Scan for all modules**.

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After rescanning, the updated list shows that the selected module now has a valid CAN bus address. For the presented example **10** was entered (decimal value 2). This address is stored within the module and will be valid until the value is changed or deleted.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value.
Image: Second State Sta	dule) ule &< (?-?) / switch:000001) ule &< (?-?) / switch:000010) ule &< (?-?) / switch:000011) ule &< (?-?) / switch:001100) ? / switch:000001) r. ?/ - / switch:000001)	Value Keypad module m. ? 1000010 9 67800 9 yes 9 yes 9 no 9 ? 9 ? 9 not activated / inco	name of parameter ? / switch:00 description number of component address setting on moo serial number dynamic adressing ena valid dynamic address disabled because of C4 registered address-swit firmware version information about this u omplete config
		SORT MODULES	ascending C descending

A component number must also be assigned. This component number ranges from 1 to 64. It identifies and distinguishes this Keypad Module from other keypads in the system. If a handle is opened using of this keypad, the component number will be stored in the event log.

Click on the **PARAMETER** value **number of component**.

• Enter the number (1 to 64) of the Keypad Module (in our example: 1).

ELM STSTEW STRUCTURE	Click on a node to select. PAR	AMETERS	Click on an entry to edit a value
ELM system - all modules ELM system - all modules Cabinet 1) Communication mod General and final chatch module General and final chatchatchatch General and final chatch module G	dule) Je 8X (?-?) / switch:000001) Je 8X (?-?) / switch:000010) Je 8X (?-?) / switch:000011) Je 8X (?-?) / switch:001100) ? / switch:0000010) ? / switch:0000010) ? / - / switch:000001)	ue (Keypad module nr. ? / 1) "/)0010 67800 yes yes no ? ? ? not activated / incompl	name of parameter switch:00 description <u>number of component</u> address setting on mod serial number dynamic adressing ena valid dynamic address disabled because of C registered address-swit firmware version information about this u ete config

• Complete your input with **ENTER** or by mouse click beside the input field.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an	entry to edit a value.
Cabinet 1 Communi Communi Cabinet 1 Communi Cabinet 1 Communi Communi Cabinet 1 Communi Communi Cabinet 1 Communi Communi Communi Cabinet 1 Communi Commu	s) ication module) .atch module 8X (?-?) / switch:000001) .atch module 8X (?-?) / switch:000010) .atch module 8X (?-?) / switch:000011) .atch module 8X (?-?) / switch:000010 nodule ni. ? / switch:000001) module ni. ? / switch:000001) module ni. ?/ - / switch:000001)	value (Keypad module m 1 000010 67800 9 yes 9 yes 9 yes 9 no 9 ? 9 not activated / real	r. 1 / switch:000010) ady for activation	name of parameter description number of compor address setting on serial number dynamic adressing valid dynamic add disabled because registered address firmware version information about t module status
		SORT MODULES	 	ig ing

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Now all settings necessary for activation have been made and the module status points **ready for activation.**

• Click with the <u>right</u> mouse button on the node of the module and select **Activate** from the context menu.

ELM SYSTEM STRUCTURE	Click on a node to sele	ct. PARAMETERS	Click on an	entry to edit a value.
 (ELM system - all modules) (Cabinet 1) (Communication (Fandle/Latch new (Fandle/Latch new<	n module) module 8X [?-?] / switch:00000 module 8X [?-?] / switch:00001 module 8X [?-?] / switch:000110 enr. 1 / switch:0000100 enr. ? / switch:0000100 ACtivate Start: detection Store detection	Value Value (Keypad module nr 1 000010 0 67800 0 yes 0 yes 0 yes 0 no 0 ? 0 ? 0 not activated / rea	. 1 / switch:000010) dy for activation	name of parameter description number of compon address setting on serial number dynamic adressing valid dynamic addr disabled because of registered address- firmware version information about th module status
		SORT MODULES	 escendir descend 	ng ling

The module is immediately activated. If the module runs error-free the **PARAMETER** value **Ok** is displayed as **module status** and the status symbol **V** is shown beside the node.

LM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an	entry to edit a value
🕬 🗱 📶 (ELM system - all modules)		value		name of parameter
Cabinet 1)	unication module) e/Latch module &<[??] / switch:000001] e/Latch module &<[??] / switch:000010] le/Latch module &<[??] / switch:001100] ad module nr. 1 / switch:000010] ad module nr. ? / switch:000001] nity module nr. ?/ - / switch:000001]	(Keypad module m. 1 000010 67800 9yes 9yes 9nc 000010 V1.8.1.11 9V1.8.1.11, H1.m.v. 00K	1 / switch:000010) e SN=y.m.d.i.nn	description number of compon address setting on serial number dynamic adressing valid dynamic addr disabled because registered address firmware version information about t module status
		SORT MODULES	 ascendir descend 	ig ing
		SEARCH SYSTEM S	TRUCTURE	

• Repeat this process for all other Keypad Modules in the system giving each module a unique address and number.

Activating Electronic Lock Control Modules (P/N 16147-052)

The activation and configuration of an Electronic Lock Control Module is shown below.

• Click on the handle module you want to activate.

In the following example the first handle module of the list is used. This module is prepared for "static addressing". This means that unlike the keypad in the example above, the address is already fixed by the DIP switches 1-6 on the module. Therefore before the activation just a component number must be assigned to this module. If dynamic addressing was enabled, a binary address between 0 and 111111 (0-63) would be entered instead.

Click on the **PARAMETERS** value first handle number. Put in the number you want to give the first handle that is connected to this module (the example uses:
 1).

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Elick on an entry to edit a value
Image: Stratewist Roctore Clock that node to select. Image: Stratewist Roctore Clock that node to select. Image: Stratewist Roctore Communication module) Image: Stratewist Roctore Communication module) Image: Stratewist Roctore Communication module (\$<(??) / switch:000001) Image: Stratewist Roctore Communication module (\$ Image: Stratewist Roctore Communication module (\$ Image: Stratewist Roctore Communication module (\$ Image: Stratewist Roctore Communication Roctore Image: Stratewist Roctore Communication Roctore Image: Stratewist Roctore Communication Roctore Image: Stratewist Roctore Communication Roctor	Value (Handle/Latch module 8% (11 1000001 0 66240 0 no 0 no 0 no 0 2 2 2 10 10 10 10 10 10 10 10 10 10	name of parameter description <u>first handle number</u> last handle number address setting on module [I serial number dynamic adressing enabled valid dynamic address assig disabled because of CAN-bi registered address-switch-se firmware version information about this unit c module status	
		<u>a</u>]	
		SORT MODULES	 ascending.
		IV Soit	C descending
		SEARCH SYSTEM STRUCT	URE

• Complete your input with **ENTER** or by a mouse click beside the input field.

The other handles connected to the module are automatically numbered in ascending order (1-8).

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Now all settings necessary for activation have been made and the module status points **ready for activation**.

• Click with the <u>right</u> mouse button on the node of the module and select **Activate** from the context menu.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value
Communication modules)	LM system - all modules) (Cabinet 1) (Communication module) (Handle/Latch module 8% (48) / switch 0000000 (Handle/Latch module 8% (Activate (Handle/Latch module 8% (Belate (Handle/Latch module 8% (Belate (Handle/Latch module 8% (Belate (Keypad module nr. 1 / switch 3top depection (Keypad module nr. 2 / switch:0000001) (Proximity module nr. 2 / switch:0000001)	Value (Handle/Latch module 1 8 000001 66240 0 no 0 no 0 no 0 ? 7 7 7 0 not activated / ready	name of parameter a 8X (1-8) / description first handle number last handle number address setting on mo serial number dynamic addressing en valid dynamic address disabled because of 0 registered address-sw firmware version information about this for activation module status
*	14	SORT MODULES	ascending descending RUCTURE Search

The module is immediately activated. If the module runs error-free the message Ok is displayed as **module status** and the status symbol V is shown beside the node.

Activating Electronic Lock Upgrade Kits (P/N 16147-060, 16147-061, 16147-062, 16147-063)

In the following example we show how to make changes to the name of a handle and how to enter an access code to the System Manager.

• Click on the + symbol beside the handle module node.

All handles connected to this module are displayed as sub nodes.

- Click on the node of the handle to be edited (in our example: Handle 2).
- Click on the **PARAMETERS** value **Description**.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value
ELM system - all modules)		value	name of parameter
Cabinet 1)	tion module) ch module 8X (1-8) / switch:000001) dle 1 / state: closed) dle 2 / state: closed) dle 3 / state: opened) dle 5 / state: opened) dle 6 / state: opened) dle 6 / state: opened) dle 8 / state: opened) ch module 8X (?-?) / switch:000010) ch module 8X (?-?) / switch:0000110) ch module 8X (?-?) / switch:001100) due n: 1 / switch:000010) due n: 1 / switch:000010)	 back door 2 closed idle X FFFFF 2 (opened/latching) 0 0 	description handle number information about this unit status alarm state (if state is latched alarm line access requirement flags alarm mode (1 = alarm if opene unlock delay unlock time
1 (Proximity mo	odule nr. ?/ - / switch:000001)	1	<u>.</u>
		SORT MODULES	e ascending
		🔽 Sort	C descending
10		SEARCH SYSTEM ST	
Call	1 st		Search

- Put in a new description (in our example: **back door**).
- Complete your input with **ENTER** or by a mouse click beside the input field.

The new description is used for the handle node.

• Click on the + symbol beside the node of handle 2.

All five possible access codes numbers (ACN) of the handle are shown as sub nodes of the handle.

- Select an access code number (ACN) and click on the **PARAMETERS** value access code number.
- Put in a code number consisting of four to six numbers (in our example: 5299).

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value
ELM system - all modules) Cabinet 1) Communication m Generation Generation	hodule] hodule 8× (1-8) / switch:0000 / state: closed] N1 of handle 2] N2 of handle 2] N3 of handle 2] N3 of handle 2] N4 of handle 2] N5 of handle 2] / state: opened]	value ALN 1 of handle 2) 5299 h	name of parameter description access code number
Karale/Latch mo Keypad module n	odule 8K (?-?) / switch:0011 r. 1 / switch:000010) r. ? / switch:000001) nr. ?/ - / switch:000001)	SORT MODULES	 Gescending C descending

• Complete your input with the button **ENTER** or by a mouse-click beside the input field.

The assigned access code (5299) will open the handle (back door) from a Keypad Module or by entering the code on the tab Open Handles or within the System Manager.

Repeat this step to configure other handles or use the tab Configure Handles. An access code must be assigned to each handle before it will operate.

Test the operation of the Electronic Lock Control Module and the handle within the system manager as follows:

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value	
		value	name of parameter	
		P(ACN 1 of handle	description	
Error P State (Communication Error P Long (Handle/Latch Error G F (Handl Error G F back o	on module) n module 8X (1-8) / switch:0000 e 1 / state: closed) door	7 5299	access code number	
Handl Handl	IACN 1 of handle 2 Open the he (ACN 2 of handle 2) Open the he (ACN 3 of handle 2) (ACN 4 of handle 2) (ACN 4 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2) (ACN 5 of handle 2)	andle by means of this A		
Handle/Latch module 8X (?-?). Keypad module nr. 1 / switch:00 Keypad module nr. 7 / switch:00 Keypad module nr. ? / switch:00 Keypad module nr. ? / switch:00 Keypad module nr. ? / switch:00	n module 8X (?-?) / switch:0000 n module 8X (?-?) / switch:0011 ile nr. 1 / switch:000010) ile nr. ? / switch:000001) ule nr. ? - / switch:000001)	SORT MODULES	 ascending C descending 	
	×	SEARCH SYSTEM	STRUCTURE Search	

• Click with <u>right</u> mouse key on the ACN under the handle.

• Select Open handle by means of this ACN.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value
E	-	value	name of parameter
Cabinet 1)	ule) le 8× (1-8) / switch:0000 tate: closed) 1 of handle 2 / 5299) 2 of handle 2) 3 of handle 2) 3 of handle 2) 5 of handle 2) 5 of handle 2) tate: opened) tate: opened) tate: opened) tate: opened) tate: opened)	back door 2 opened ide 7 FFFFF 2 (opened/latching) 0 0	description handle number information about this unit <u>status</u> alarm state (if state is latched - delete alarm line access requirement flags alarm mode (1 = alarm if opened / lat unlock delay unlock time
(Handle 8 / state: c) (Handle/Latch module 8% (Handle/Latch module 8% (Handle/Latch module 8% (Handle/Latch module 8% (Keypad module nr. 1 / swi (Keypad module nr. 2 / swi (Keypad modu	tate: opened) le 8× (?-?) / switch:0000 le 8× (?-?) / switch:0000	1	2
	Jie 8X (?-?) / switch:0001 1 / switch:000010) ? / switch:000001) 2/ . / switch:000001)	SORT MODULES	 ascending descending
		SEARCH SYSTEM S	IRUCTURE Search

The handle should open and the report the status of the handle as open.

7.4.2.3. Registration of Cabinets

You can add additional "cabinets" in the System Manager tree-stucture to organize nodes according to their physical locations in the network as follows.

• Click with the <u>right</u> mouse button on the node **ELM system**.

A context menu is opened.

• Select New Cabinet.

LEM STOTEM STRUCTURE	Click on a node to selec	t PARAMETERS	Click on an entry to	edit a value
Image: Second system - all model Image	New Cabinet 001 Save configuration to file 001 Load configuration from file 010 Show only activated Modules 011 Scan for all Modules 100 Immodule m. 1 / switch:000001) 100 Ig module m. ? / switch:000001) 100	value		name of
		SORT MODULES	 reaccending r descending 	<u>.</u>

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ELMcontrol generates a new node **Cabinet 2**. You can click, hold and drag modules to the new cabinet. The following image shows the result of shifting a module node to the new cabinet node.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to ed	it a value
Cabinet 1)	ation module) tch module (5 { (??) / switch:000010) tch module (5 { (??) / switch:000011) tch module (5 { (??) / switch:00010) odule nr. ? / switch:000001) odule nr. ? / switch:000001) tcl module (5 { 1-8) / switch:000001)	value (Handle/Latch module 8× (.1-8) / switch:000001) 1 9 8 000001 66240 9 0 0 0 0 0 0 0 0 0 0 0 0 0		name o descrip first ha last ha addres serial n dynam valid d disable registe firmwar informa module
<u> </u>	[F].	SORT MODULES	ascending descending RUCTURE Sea	irch

7.4.2.4. Detection of Modules

• To identify the physical location of a module, click with the <u>right</u> mouse key on the module's node and select **Start detection** from the context menu.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Click on an entry to edit a value	
ELM system - all modules)		value	name of parameter	
Cabinet 1)	ation module) ch - Activate - Delete du Start detection du Start detection du Start detection - Activate - Start detection - Start detecti	(Handle/Latch modul ? 000010 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	description first handle number last handle number address setting on module (by swil serial number dynamic adressing enabled valid dynamic address assigned disabled because of CAN-bus-add registered address-switch-setting in firmware version information about this unit module status	
		1		
		SORT MODULES	ascending	
		🔽 Sart	C descending	
		SEARCH SYSTEM STR	UCTURE	
	181		Search	

For 255 seconds an LED on the module will flash. The LEDs on the other modules (apart from the Communications Module) permanently shine. The remaining period of time is displayed in the module status and in the module node.

• To stop the flashing LED, click with the <u>right</u> mouse button on the module's node and choose **Stop detection**.

7.4.2.5. Deactivation and Deletion of Modules

• If you want to delete a module from the list click on the module node with the <u>right</u> mouse key and select **Delete** from the context menu. If you delete a cabinet node all associated modules will also be deleted.

When an active module is deleted, it is immediately deactivated by the system. Please note that the module keeps its system address when it is deleted.

The Communications Module and the related cabinet cannot be deleted. If you delete the cabinet which contains the Communications Module then all the other modules (if any) will be removed from the cabinet.

7.4.3. Module Types and Parameters

The configuration parameters of the module types are listed in the following table:

Module type	Parameter	read/ write	Meaning
All	Description	0	Description of the module
	Firmware-version	Q	Software version number of the module
	Module status	Q	Status of the module (status of error)
All, except for Communications Module (P/N 16147-050)	Registered address- switch setting in table of modules	0	Binary CAN bus address which is registered to the table of modules by the system when the module is activated. This address must match the address setting on the module (either static or dynamic).
	Address setting on module	Q	Binary CAN bus address which is assigned to the module, either static or dynamic. This value is writable if "dynamic addressing" is active (DIP switches 1-6 on the module are "on"). Otherwise the DIP switch setting 1-6 is displayed and used as address by the module.
	Serial number	Q	A serial number stored within the module. This number is entered at production.
	Dynamic addressing enabled	Q	(yes/no) Shows whether the module is set to dynamic addressing mode.
	Valid dynamic address assigned	Q	(yes/no) Shows whether a valid dynamic address is assigned to the module.
	Disabled because of CAN-bus-addressing conflict	Q	(yes/no) If two or more modules are set to the same address, then all except for one will be disabled.

Configuration param	eters of module typ	es – continued

Module type	Parameter	read/	Meaning
		write	
Communica- tions Module (P/N 16147- 050)	Specific features	Q	Indications of specific properties -Hardware-Version-Number -Clock frequency (in Hz) -Baud-Rate of the serial connection (in Bit/s)
	SNMP:sysUpTime	Q	SNMP variables according to the
	SNMP:sysContact	0	MIB-II system group
	SNMP:sysName	0	
	SNMP:sysLocation	0	
	Currently used amount of the general purpose file storage in bytes	Q	Used amount and total capacity of the general purpose file storage of the Communications Module. You may change the
	Total capacity of general purpose file storage in bytes	0	total capacity by entering a different value. Please note that the capacity of the event log storage is in a reversed relationship to the capacity of the file storage.
	Current number of saved event log entries	0	Currently stored event log entries and total capacity of the event log storage. Enter '0' if you want
	Total capacity of the event log ring-buffer; maximum number of entries / bytes	Q	to clear the event log storage.
	Current state of alarm line 1	0	Status of alarm line 1 Status being = latched , for a reset of the alarm delete the text in the input field. (see section 7.9. Configuration of Alarm)
	Description of alarm line1	0	Optional text description for alarm line 1 (see section 7.9. Configuration of Alarm)
	Latch mode of alarm line 1	Ø	yes = latch mode for alarm line 1 is switched on no = latch mode for alarm line 1 is switched off (see section 7.9. Configuration of Alarm)

Relay for alarm1 shall be off if no alarm 1 is present	0	yes = relay off, because there is no Alarm 1 reported no = relay on, if there is Alarm 1 (see section 7.9. Configuration of Alarm)
Current state of alarm line 2	Ø	Status of alarm line 2 Status being = latched , for a reset of the alarm delete the text in the input field. (see section 7.9. Configuration of Alarm)
Description of alarm line 2	0	Optional text description for alarm line 2 (see section 7.9. Configuration of Alarm)
Latch mode of alarm line 2	Ø	yes = latch mode for alarm line 2 is switched on no = latch mode for alarm line 2 is switched off (see section 7.9. Configuration of Alarm)
Relay for alarm line 2 shall be off if no alarm is present	0	yes = relay off, because there is no Alarm 2 reported no = relay on, if there is Alarm 2 (see section 7.9. Configuration of Alarm)
MAC address of Communications Module	Q	MAC address of the network of the Communications Module (see section 7.2.3.1. 7.2.3.1. Network Setup of the System IP Properties)
IP address of Communications Module	Q	IP address of the network of the Communications Module (see section 7.2.3.1. 7.2.3.1. Network Setup of the System IP Properties)

N	odule type	Parameter	read/ write	Meaning
-::	Keypad Module P/N (16147- 008)	Number of component	0	Number of the key pad unit (1- 64)
- 18 8	Electronic Lock Control	First handle number	0	Number of the first handle of this module
	Module for 8 swing handles (P/N 16147-	Last handle number	Q	Number of the last handle of this module
-10)	Proximity Card Reader	Number of component	0	Number of the proximity unit (1- 64)
	Module (P/N 16147-	1. length of card-ID	0	(see section 7.8. Proximity Cards)
	054)	1. start address of the card-ID	0	(see section 7.8. Proximity Cards)
		2. length of card-ID	0	(see section 7.8. Proximity Cards)
		2. start address of card-ID	0	(see section 7.8. Proximity Cards)
		Card-ID mask	0	(see section 7.8. Proximity Cards)
		Keeping period	0	(see section 7.8. Proximity Cards)
		ID of current card	Q	ID-number of the card that is held before the proximity reading station

Configuration parameters of module types – continued

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7.4.4. Configuration Data Files

The configuration data of the system can be stored in a separate backup file on the workstation and can be downloaded from the workstation to the system.

The configuration data files include the configuration of all modules with the complete number of components and their parameters as well as the data for all proximity cards. The data that can be set via serial connection only (e.g. the IP-configuration of the Communications Module and the workstation login passwords) is not included in the configuration file.

Two different configuration file formats are available.

<u>Text File</u>

A text format allows changes of the configuration in a text editor. Note that the text format of the configuration file includes all access codes for all handles and all alarm-settings.

The file consists of multiple entries. Each entry includes a configuration parameter in the form of an SNMP-Identification Number, together with the SNMP-data type and the value of the parameters. These three elements are placed in one line, separated by semicolon and preceded by comment lines indicated by the characters "//". The comments indicate the component or module and explain the parameter.

Examples:

```
//module table entry number: 1
//(Handle module 8X (1-8) / switch:000001)
//first handle number
.1.3.6.1.4.1.13595.1.2.4.2.1.3.1;2;1
```

This example is the specification of the first handle number for the handle module with address 1 (switch: 000001). The SNMP-OID of this parameter is .1.3.6.1.4.1.13595.1.2.4.2.1.3.1. The data type is 2 (INTEGER) and the value is 1.

```
//(Handle module 8X (1-8) / switch:000001)
//(Handle 2)
//description
.1.3.6.1.4.1.13595.1.2.1.2.1.3.2;4;back door
```

This example shows the text description for handle 2, which is "back door". The data type of this parameter is 4 (OCTETSTRING). This handle is the second handle of the handle module with address 1 (switch: 000001).
```
//(Handle 1)
//(ACN 4 of handle 1)
//access code number
.1.3.6.1.4.1.13595.1.2.1.2.1.7.1;4;2112
```

This example shows the forth access code number (ACN 4) for opening handle 1 is 2112.

Encrypted File

An encrypted file format protects the information contained in the file against unauthorized viewing and changes. The file is saved by a password and then encoded. The algorithm that is used for encoding is Triple-DES according to standard ANSI X9.52.

7.4.4.1. Storing Configuration Data to a File

- Under the **ELM System Structure** area on the System Manager tab, click with the <u>right</u> mouse button on the node **ELM system**.
- Select Save configuration to file from the context menu. It is also possible to call up the function from the main menu (File/Save) or click on the icon III of the tool bar.

ELM SYSTEM STRUCTURE	Click on a node to select.	PARAMETERS	Elick on an entry to edit a value
Cabinet 2) Construction Constructio	binet infiguration to file itch:0000 witch:000 p) Latch module &≺ (9-16) / switch:000 module nr. 2 / switch:000001) module nr. 1 / switch:000001)	value	name of parameter

You get to the following window:

look in:	ELM	
iile name	ELMconfig.elm	Save
ile type	ELM configuration files (*.elm)	▼ Cancel
Selec	ted file	A
3		<u>×</u>
	ORMAT OPTIONS	
-FILE FI		and the second
- FILE FI	rypted file (• encryption key	editable text file (ASCII)

- Select a directory, name the file, and assign a file type for the configuration file. *ELMcontrol* prescribes the file type "**.elm**", but you can choose a different name for the file type.
- Select the encrypted file button in the FILE FORMAT OPTIONS area to encode the file. Enter a password in the Encryption Key field. Verify the password in the Encryption Key (copy for safety) field. Remember your password.
- Click the key **Save**.

Configuration data is scanned from the system and saved to the file.

7.4.4.2. Loading Configuration Data From a File

Loading a configuration file is only possible after the existing configuration of the system has been deleted.

- Delete all entered cabinets or modules. Only the Communications Module and Cabinet1 should remain in the tree-structure under the ELM SYSTEM STRUCTURE area on the System Manager tab.
- <u>Right</u> click on the **ELM system** node.
- Select Load configuration from file from the context menu. You can also use (File/Open) from the main menu or click on the icon in the tool bar.

Alarms Open Handles Config Handles Sensors Date/Time System Manage	r Proximity Cards Login Passwords IP Properties
ELM SYSTEM STRUCTURE Click on a node to select	t. PARAMETERS Click on an entry to edit a value,
Image: Construction of the construction of the construction of the construction from file Image: Construction of the cons	value name of parameter ✓ ✓ SORT MODULES ⓒ ascending ✓ ✓ ✓

You get to the following window.

oad ELM sy	rstem configuration from file	2
look in:		
ELMCON	ig, em	
file name	ELMconfig.elm	Open
file type	ELM configuration files (*.elm)	Cancel
FILE IN Selec C:\EL	IFORMATION ted file M\ELMconfig.elm	
ELMo Confi Date: Time: ELM	control version:1, 1, 3, 0 guration file version:1, 1 2003/07/18 17:00:51 system name:ELM system 2	× ×
-FILE FO	DRMAT OPTIONS	
C enc	rypted file	editable text file (ASCII)
- one		
I T	encryption key	

• Select a configuration file.

ELMcontrol recognizes the format of the selected file. If the file is text format with free access (not encoded) file information is shown in the **FILE INFORMATION** area.

- If the file is encoded with a password, enter the password in the Encryption Key field in the **FILE FORMAT OPTIONS** area.
- Click the key **Open**.

Configuration data is scanned from the file and loaded to the system.

7.4.5. Updating Firmware of a Communications Module

When setting up a data connection with a Communications Module, the *ELMcontrol* software determines compatibility with the module's firmware. If the firmware is not compatible a corresponding message is generated that list the current firmware version and the required minimum firmware version.

Download the current firmware version from the CPI Website at <u>http://www.chatsworth.com/Support-and-Downloads/Downloads/Software/</u>. Update firmware from the System Manager tab using a serial connection.

A firmware update deletes all configuration data. Before the firmware is updated, *ELMcontrol* can automatically save the existing configuration in a file and restore it afterwards, if requested. Restoring includes configuration of all modules with every component and their parameters as well as the data of all proximity cards. However, the IP-configuration and the login-passwords cannot be restored. These settings must be entered manually using a serial connection after the firmware update is complete.

- Obtain a copy of the new firmware file from the CPI Website or Technical Support.
- Right click the Communications Module node under the **ELM SYSTEM STRUCTURE** area on the System Manager tab.
- Select **Update firmware** in the context menu. You can also use (**File/Update Firmware**) from the main menu or click on the icon **S** in the tool bar.



You get to the following window.

oad modul	e firmware from file		?
look in:	ELM 🖉	🗈 💣 🎟 -	
S1m14a2	tv21.dlf		1
file name	S1m14a2v21.dlf	Ope	n
file type	ELM firmware files (*.dlf)	Cano	el
C:\EL DLFv Progr Board	eome M\S1m14a2v21.dlf 1: www.emka-electronic.de, 2003/07/0 am: S1m14a2v21.hex 1: H1m14v3	38]
×		¥ <u></u>	
- MODUI Select	E INFORMATION		
(Comr	nunication module)		
	NS		
	the second second second second		

• Select a firmware file. The file type is "dlf".

In the **FILE INFORMATION** area, the firmware upgrade version and compatible module is shown.

Restore configuration after firmware update automatically is pre-selected in the **OPTIONS** area. Selecting this option will automatically save a system configuration file before installing the firmware upgrade. After the upgrade, the system configuration will be loaded on the system. You must complete the IP configuration and login passwords manually using a serial connection.

• Click the key **Open**.

The firmware update is started.

7.5. Configuring Handles and Latches

Use the **Configure Handles** tab to configure handles.

• Click on the index tab **Configure Handles**. You will see the following screen:

rms Open H	landles (Config Handles Se	ensors Date/Time	System Mana	ger Proximity	Cards Login	Passwords	IP Prope	erties												
med	ALARM - reset e / line	description LATCH delay to un unlack	CONTROL (ock (s)	DIT SELECTED umber: ACN 1 24 - ARF	HANDLE IDN:	W CCESS PERMI	rite changes SSIONS 	to ELM system	5 [- ARF -												
 Ø detail I show a 	- view mo led (de O overview	MONITORING AN SETTINGS	ND TRAP	opening time lim before trap (min.	t]	trap rate (min.)	an entry	next tra (sec to seler	ap 2.)	tle.										
number	IDN (i	. opening state		ela	opening ti	description	ք a	9€	82			ன 1	€ ₩ 2.	Sm 3	€ 77 4	S	🗔 ARF (Acces	s Requirement Flags)	trap.	. time.	
	1	closed		68	0	front door	not ass	X	2 (0 0		1245	5643	9451	2112	7838	FF FF FF (111111	11 1111111 11111111	0	0	
2	2	closed		35	0	back door	latched	1	2 (I	0 0	1	5299	4168	XXXXXX	XXXXX	XXXXXX	FF FF FF (11111	11 1111111 1111111)	0	0	
V 🔒 3	3	closed		68	0		idle	1	2 (0 0	1	171623	*****	*****	XXXXX	XXXXX	FF FF FF (111111	11 1111111 1111111)	0	0	
Ø 🐰 4	4	opening time limi	t exceeded	68	1		active	1	2 (0 0	1	736259	91114	\times	\times	\times	FF FF FF (111111	11 11111111 11111111)	0	0	
🗹 🔒 5	5	opened		68	0		not ass	Х	2 (0 0		3477	$\times \times \times \times \times$	\times	$\times \times \times \times \times$	\times	FF FF FF (111111	11 11111111 11111111)	0	0	
🛛 🔂 6	6	opened		68	0		not ass	Х	2 (0 0	1	XXXXX	$\times\!\!\!\times\!\!\!\times\!\!\!\times\!\!\times\!\!\!\times$	*****	\times	XXXXX	FF FF FF (111111	11 11111111 11111111)	0	0	
0 2 7	7	opened		68	0		not ass	Х	2 (0 0	I	XXXXX	XXXXX	×****	XXXXX	XXXXX	FF FF FF (111111	11 11111111 11111111)	0	0	
⊡∂ 8	8	opened		68	0		not ass	Х	2 (0 0		*****	*****	*****	*****	*****	FF FF FF (111111	11 11111111 11111111)	0	0	
ା 🗹 🛃 ି	9	opened		68	0		not ass	X	2 (00		783099	262811	*****	*****	*****	FF FF FF (111111	11 11111111 11111111)	0	0	
[범럿 10	10	opened		68	0		not ass	X	2 [00		XXXXX	×****	×××××	XXXXX	×××××	FF FF FF (111111	11 11111111 11111111)	0	0	
범덕 !!	11	opened		68	U		not ass	X	21	U C		1/1623	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	××××××	XXXXXX	××××××	FF FF FF (111111	11 11111111 11111111)	U	0	
H 12	12	opened		68	U		not ass	X	2[]	U U		XXXXXX	200000	××××××	200000	2000000	FF FF FF (111111	11 11111111 11111111	U	0	
	13	opened		68	U		not ass	~	2 (2 (0 L		~~~~~	788888	~~~~~	XXXXX	XXXXX	FF FF FF [11]]]]		U	0	
	14	opened		68 C0	0		not ass	× v	2 (2 (0 L 0 C			~~~~~			~~~~~	FF FF FF (111111	11 11111111	0	0	• 1
	121	UNREPEN		nri			ALL ANY	~	2 I I				~~~~~	~~~~~	00000	~~~~~					10000

The table **LIST OF HANDLES** shows the handles attached to the system. You can sort the list according to each of the displayed columns of the table by a click on the corresponding top of the column. Click again on the same place and the order is reversed.

The **View mode** toggles between a multi-column **Overview** or a list with all **Details** (shown).

The table includes the following information:

<u>Number</u>

Every handle has a number, which is defined during the configuration of the Electronic Lock Control Module. This number serves as an identification of the handle and is used when opening the handle with a Keypad Module or Proximity Card Reader Module.

Status symbol

There is a symbol at the left side of the handle number. It indicates the present status of the handle.

The following status symbols are shown individually or in combination:



The handle is open.

Release 1.0 Chotoworth Products Inc. **G** The handle is closed.

! The handle reports an active alarm. (light blue exclamation mark)

The handle reports latched alarm. (dark blue exclamation mark)

The handle module is defective. (red exclamation mark) The system administrator should check the correct setting of the module parameters in the system-manager and should exchange defective modules.

Number and status of the handle are unknown. ELMcontrol has not read all necessary information from the system (i. e. the scan process is not complete).

The view mode **Overview** shows the handle number and the status symbol for every handle, only.

Alarms Open Handles Config H	andles Sensors Date/Time System Manager Proximity Carr	ds Login Passwords IP Properties		
Jams Open Handles Config Handles Sensors Date/Time System Manager Proximity Cards Login Passwords IP Properties ALARM description EDIT SELECTED HANDLE Write changes to ELM system system Image: reset Image: reset Image: reset Image: reset ACCESS PERMISSIONS Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset Image: reset				
view mode C detailed	view SETTINGS AND TRAP opening time limit before trap (min.)	trap rate next trap (sec.)		
show all available handles	s LIST OF HANDLES	Click on an entry to select a handle.		
1 Y 1 Y 2 Y Y 2 Y Y 2 Y Y 2 Y Y 2 Y Y 4 Y Y 5 Y Y 6 Y Y 7 Y Y 7 Y Y 9 Y Y 10 Y Y 11 Y Y 12 13 Y 12 14 Y 15 15	17 18 19 20 21 22 23 24 100 101			

Scan process

There is a check box at the left hand side of the status symbol which changes the handle scan process as follows.

complete scan of all handle data

ELMcontrol scans all data of the handle and shows under the **Details** view mode all properties delivered by the system for the present login level.

scan of the handle status, only

ELMcontrol scans only handle data from the system that is necessary for monitoring the present status of the handle. This refers to the opening status, alarm status and the error status of the handle module. *ELMcontrol* only shows the corresponding status symbols of the handle. This reduces the scan process and allows a faster update rate of the handle display because less data is exchanged. You cannot change the handle parameters (e. g. access code numbers) with this type of scan because *ELMcontrol* does not exchange the corresponding data with the system.

• For a change of scan, check or uncheck the check box next to the handle with a mouse click or by highlighting the handle and pressing the space bar.

Above the table **LIST OF HANDLES** you will find the check box **show all available handles.** If this check box is marked all handle numbers which can be assigned to Electronic Lock Control Modules known to the system are listed in the table. For example, if one eight handle module is connected, eight handles will be shown in the list even if eight handles are not physically connected to the module. With the check box **show all available handles** unmarked the table of handles shows only the handles that have the **complete scan of all handle data** check box marked.

• To delete certain handles from the table, the scan process for these handles should be set to *scan of handle status, only* (uncheck the handle scan check box) and uncheck the **show all available handles** check box.

IDN (identification number)

1..6-digit number which can independently be assigned to a handle or latch

Opening state

The present status (**open / opening time limit exceeded / closed / delayed to unlock / unlocked**) is shown. This requires the use of handles, which have a contact for signaling the status of the handle to the handle module.

Elapsed time in current state (minutes)

The time elapsed since the handle has entered the current opening state.

Opening time limit (minutes)

The time limit allowed for a handle to be opened. Exceeding this limit causes sending of SNMP trap(s) if the **Trap rate** setting (see below) for this handle is not 0. The time limit

before entering the state **opening time limit exceeded** can be defined in 1 minute steps from 0 to 9999 minutes; 0 means "no limit".

Description

Every handle can be given a description with a maximum of 31 characters.

Balarm state

The handle can be in one of the following alarm status:

Alarm status	Meaning
not assigned	The handle is not connected with an alarm line.
idle	The handle is connected with an alarm line. The handle is closed at present; no releasing condition (handle open) exists. The handle does not cause an alarm.
active	The handle causes an "active" alarm. This means that the handle is connected to an alarm line and the releasing condition (handle open) exists at present. The alarm line assigned to the handle is also in a condition of "active" alarm.
latched	The handle causes a "latched" alarm. The handle is connected to an alarm line and the alarm type "latched" is switched on. The handle is closed at present; at a previous time, however, it was open. The alarm line assigned to the handle is also in a "latched" status if no other components connected with this alarm line report "active" alarm.
?	The alarm status is unknown. <i>ELMcontrol</i> has not read all information from the system necessary for terminating the scan process.

<mark>8</mark>€ <u>Alarm line</u>

Shows the number of the assigned alarm line. If the handle was not assigned to an alarm line the character X is displayed.

Alarm mode

The setting is only effective in cases where an alarm line is assigned to the handle/latch. The following modes are available:

Alarm mode	Meaning
1	If the handle is opened, it causes an
(alarm if opened / latching off)	"active" alarm. The alarm will be cancelled
	when the handle is closed. The alarm state
	returns to "idle".
2	If the handle is opened, it causes an
(alarm if opened / latching on)	"active" alarm. After closing the handle the
	alarm will continue as a "latched" alarm.
3	If the handle is opened, it causes an
(alarm if unexpected opened / latching off)	"active" alarm but only if the opening was
	not authorized (burglary). The alarm will be
	cancelled when the handle is closed. The
	alarm state returns to "idle".

4 (alarm if unexpected opened / latching on)	If the handle is opened, it causes an "active" alarm but only if the opening was not authorized (burglary). After closing the handle the alarm will continue as a "latched" alarm.
--	--

Delay to unlock

For latches only: This parameter determines the delay period after initiating the opening (e.g. by entering the right access code on a key pad) until the beginning of the release period. The time period can be entered in 2 seconds steps from 0 to 510 seconds.

Unlock time

For latches only: This parameter defines the real release period. This period of time starts after expiry of the delay time (see above). During the unlock period the door can be opened at any time - but only once. An immediate locking is carried out when closing the door even if the unlock time hasn't expired yet. The time period can be entered in 2 seconds steps from 0 to 510 seconds.

🖣 <u>Access Code Numbers (ACN 1 - ACN 5)</u>

With one of the shown number codes the handle can be opened via keypad, proximity card, or PC (software). Codes that haven't been fixed are displayed by the sequence of characters **XXXXX**.

Access Requirement Flags (ARF)

These 24 flags form another method of authorization for opening a handle. The ARF can be used with a proximity card or keypad. Each of the 24 flags can be set or deleted independently. Each card (see section 7.8. Proximity Cards) as well as each user (see section 7.3.2.2. 7.2.3.2. User Management) has 24 flags, called the Access Permission Flags (APF).

A handle can be opened by a proximity card or keypad with a user account number when the handle's ARF matches the user's/proximity card's APF.

With the help of the ARF/APF you can form groups from handles and cards or users with different opening permissions which can be subdivided hierarchically.

Trap rate

Trap mode and time interval for sending SNMP-traps at changes of opening state of the handle/latch.

The following values are possible:

- 0: The handle/latch does not send any SNMP-trap (default)
- 1: At each change of the opening condition a trap is sent once.
- 2 .. 250: At each change of the opening condition one trap is sent. But this trap is then repeated every 2 .. 250 minutes.

Time until next trap

At Trap rate settings of 2 .. 250 this is the time up to the next trap (in seconds).

Change Settings

• To change the settings of a handle select the handle that you want to edit with a click with the <u>left</u> mouse button on the desired row in the table. The line is marked in color. Note: the scan button for the selected handle must be marked (complete scan of all data).

2 (c	— Al la r node	LARM tched reset / line ed/latchi	description back doo LATCI delay to u	n r H CONTROL Inlock (s) 0 k time (s) 0	EDIT SEL number: ACN 24	ECTED 2 1 5299 - ARF -	HANDLE IDN: [2 [2]	2 ACCESS PERI 4168 3 16 - ARF - ARF	Write changes	s to ELf syster	M		
• de	etaile	view mo d	de O overview			λP οι b	pening tim efore trap	e limit 0 (min.)	trap rate (min.)	0	next (s	trap .ec.)	0
M sho	w all	available	handles	LISTU	JF HANDLES	j 			Click or	n an er	ntry to sel	lect a l	handle
number		- IDN (i	opening state			ela	opening	ti description	i 🛿 🖁 a	8€	88	<u> </u>	
	1	1				107		2 . I			~ ~ ~	0	0
<u> </u>			ciosea			107	U	front door	not ass	X	2 į		
	2	2	closed <u>closed</u>			<u>74</u>	0 <u>0</u>	front door <u>back door</u>	not ass <u>latched</u>	× <u>1</u>	2 (<u>2 (</u>	Ō	Ō
	<u>2</u> 3	2 3	closed <u>closed</u> closed			<u>74</u> 107	0 0 0	tront door <u>back door</u>	not ass <u>latched</u> idle	× 1 1	2 (<u>2 (</u> 2 (<u>0</u> 0	<u>0</u> 0
	2 3 4	2 3 4	closed closed closed opening time lir	mit exceeded		107 <u>74</u> 107 107	0 0 1	front door <u>back door</u>	not ass <u>latched</u> idle active	× 1 1	2 (<u>2 (</u> 2 (2 (0 0 0	<u>0</u> 0 0
	2 3 4 5	2 3 4 5	closed closed closed opening time lir opened	nit exceeded		107 74 107 107 107	0 0 1 0	front door <u>back door</u>	not ass <u>latched</u> idle active not ass	× 1 1 ×	2 (2 (2 (2 (0 0 0 0	0 0 0 0
	2 3 4 5 6	2 3 4 5 6	ciosed closed closed opening time lir opened opened	nit exceeded		107 <u>74</u> 107 107 107 107	0 0 1 0 0	front door <u>back door</u>	not ass latched idle active not ass not ass	× 1 1 × ×	2 (2 (2 (2 (2 (0 0 0 0 0	0 0 0 0 0
	2 3 4 5 6 7	2 3 4 5 6 7	ciosed closed closed opening time lir opened opened opened	mit exceeded		107 <u>74</u> 107 107 107 107 107	0 0 1 0 0 0	front door <u>back door</u>	not ass latched idle active not ass not ass not ass	× 1 1 × × ×	2 (2 (2 (2 (2 (2 (0 0 0 0 0
	2 3 4 5 6 7 8	2 3 4 5 6 7 8	closed closed closed opening time lir opened opened opened	mit exceeded		74 107 107 107 107 107 107 107	0 0 1 0 0 0	front door <u>back door</u>	not ass latched idle active not ass not ass not ass not ass	× 1 1 × × × ×	2 (2 (2 (2 (2 (2 (2 (2 (2 (0 0 0 0 0 0
	2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	closed closed opening time lir opened opened opened opened opened	mit exceeded		74 107 107 107 107 107 107 107 107 107 107 107 107 107 107 107	0 0 1 0 0 0 0 0	front door <u>back door</u>	not ass latched idle active not ass not ass not ass not ass not ass	× 1 1 × × × ×	2 (2 (2 (2 (2 (2 (2 (2 (2 (0 0 0 0 0 0 0
	2 3 4 5 6 7 8 9 10	2 3 4 5 6 7 8 9 10	closed closed opening time lin opened opened opened opened opened opened	mit exceeded		74 107 107 107 107 107 107 107 107	0 0 1 0 0 0 0 0 0	front door <u>back door</u>	not ass latched idle active not ass not ass not ass not ass not ass	× 1 1 × × × × ×	2 (2 (2 (2 (2 (2 (2 (2 (2 (0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
	2 3 4 5 6 7 8 9 10 11	2 3 4 5 6 7 8 9 10 11	closed closed opening time lin opened opened opened opened opened opened opened	mit exceeded		107 107	0 0 1 0 0 0 0 0 0 0	front door back door	not ass latched idle active not ass not ass not ass not ass not ass not ass not ass	× 1 1 × × × × × ×	2 (2 (0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
	2 3 4 5 6 7 8 9 10 11 12	2 3 4 5 6 7 8 9 10 11 12	closed closed opening time lir opened opened opened opened opened opened opened opened	mit exceeded		107 107	0 0 1 0 0 0 0 0 0 0 0 0	front door <u>back door</u>	not ass latched idle active not ass not ass not ass not ass not ass not ass not ass	× 1 1 × × × × × × ×	2 (2 (
	2 3 4 5 6 7 8 9 10 11 12 13	2 3 4 5 6 7 8 9 10 11 12 13	closed closed opening time lir opened opened opened opened opened opened opened opened opened	mit exceeded		74 107 107 107 107 107 107 107 107 107 107	0 0 1 0 0 0 0 0 0 0 0 0 0 0	front door <u>back door</u>	not ass latched idle active not ass not ass not ass not ass not ass not ass not ass not ass	$\begin{array}{c} \times \\ 1 \\ 1 \\ \times \\$	2 (2 (

The parameters of the selected handle are shown in the **EDIT SELECTED HANDLE** area.

Now you can edit the description, the access codes and flags, the connection to the alarm line and the type of alarm. In case of a latch you can additionally edit the delay time and the unlock time.

- The **description** is text with no more than 31 characters.
- An **ACN** is numbers only. The minimum length is 4 digits, and the maximum length is 6 digits. To delete an access code, remove all numbers from the corresponding field or put in the character **X**.
- Mark all the flags of the **ARF** that you want to set.
- The numbers 1 or 2 are possible **alarm line** numbers. To disconnect an alarm line use the character **X** or remove the number from the input field.

- Select the desired alarm mode.
- If the handle/latch should send SNMP-Traps when opened/closed, adjust the desired **trap rate**. At values of 2 ... 250 the remaining time to the **next trap** is shown. In this case you may overwrite this time value and so e.g. trigger the next SNMP-trap for test purposes at another time.
- After you have made the desired changes click the button Write changes to ELM system.

The entries are updated after the next scan (reading cycle).

If the button **Write change to the ELM system** is not clicked any changes made are dismissed as soon as you select another handle or if you leave the index card **Configure Handles.**

Handles showing the alarm status "latched" can be put back to the status "idle" in the **ALARM** area by clicking the **reset** button. Handles showing the alarm status "active" can be put back to the status "idle" only if alarm mode 3 or 4 is assigned to the handle.

7.6. Open Handles and Unlock Latches

The index card **Open Handles** allows the opening of handles and the unlocking of latches from a workstation using the *ELMcontrol* software. Unlike the System Manager tab, you must have a valid ACN to open a handle. The index card **Open Handles** can be used with a low login level.

• Click on the index tab **Open Handles.** The following window shows the corresponding index card:

SELECTED HANDLE		LIST OF	HAN	DLES				last read:	1-101			
number DNI:		🔽 sha	ow all	available l	handles		Click	on a row to select	a handle.			
		numbe	:r	IDN (i	state	elaps	openi	description	🥵 alarm s	8€	83	Ŀ
description:			1	1	closed	61	0	front door	not assigned	X	yes	
			2	2	closed	28	0	back door	latched	1	- yes	
			3	3	closed	61	0		idle	1	yes	
			4	4	opening time limit exceeded	61	1		active	1	yes	
OPEN HANDLE(S)			5	5	opened	61	0		not assigned	Х	yes	
			6	6	opened	61	0		not assigned	Х	yes	
Access Code Number:			7	7	opened	61	0		not assigned	Х	yes	
			8	8	opened	61	0		not assigned	Х	yes	
selected only			9	9	opened	61	0		not assigned	Х	yes	
Open selected handle			10	10	opened	61	0		not assigned	Х	yes	
			11	11	opened	61	0		not assigned	Х	yes	
— group (requires login level 10)——			12	12	opened	61	0		not assigned	Х	yes	
Open group of handles			13	13	opened	61	0		not assigned	Х	yes	
			14	14	opened	61	0		not assigned	Х	yes	
ACN column of group: 5 💌			15	15	opened	61	0		not assigned	Х	yes	
			16	16	opened	61	0		not assigned	Х	yes	
result-			17	17	opened	61	0		not assigned	Х	yes	
<u> </u>			18	18	opened	61	0		not assigned	Х	yes	
r · ·			19	19	opened	61	0		not assigned	Х	yes	
			20	20	opened	61	0		not assigned	Х	yes	
			21	21	opened	61	0		not assigned	Х	yes	
view mode	1 I.		22	22	opened	61	0		not assigned	Х	yes	
detailed C overview			23	23	opened	61	0		not assigned	Х	yes	
			24	24	opened	61	0		not assigned	Х	yes	_
hide opened handles			100	100	opened	61	0		not assigned	Х	yes	
hide closed bandles			101	101	opened	61	0		not assigned	Х	yes	

The Table LIST OF HANDLES shows the handles of the system.

The **View mode** can be a multi-column **Overview** or a list with all **Details** (shown). You can also hide open or closed handles by selecting the button **hide open handles** or **hide closed handles**.

The table contains the following criteria:

<u>Number</u> <u>Status symbol</u> <u>Scan process</u> <u>Identification number</u> <u>Opening state</u> Elapsed time in current state (minutes) Opening time limit (minutes) Description Alarm state Alarm line Alarm latch mode

This information is also contained in the corresponding table on the index card **Configure Handles**, see section 7.5. Configuring Handles for criteria explanations.

• To open a handle select the corresponding handle by clicking with the <u>left</u> mouse button on the handle number in the table.

SELECTED HANDLE		LIST O	F HAN	IDLES				last read:	1-101
number: 2 IDN: 2		🔽 si	now al	available	handles		Click (on a row to sele	ct a hand
		numb	er	IDN (i	state	elaps	openi	description	8
description:		. ☑ 🔒	1	1	closed	111	0	front door	not a
back door			2	2	closed	78	0	back door	latch
			3	3	closed	111	0		idle
	_		4	4	opening time limit exceeded	111	1		activ
OPEN HANDLE(S)		. ☑ 🔒	5	5	opened	111	0		not a
		. ☑ 🔒	6	6	opened	111	0		not a
Access Code Number: ****		_ ☑ 🔒	7	7	opened	111	0		not a
		_ ☑ 🔒	8	8	opened	111	0		not a
selected only		_ ☑ 🔒	9	9	opened	111	0		not a
Open selected handle		_ ☑ 🔒	10	10	opened	111	0		not a
		_ ☑ 🔒	' 11	11	opened	111	0		not a
— group (requires login level 10) —		_ ☑ 🔒	12	12	opened	111	0		not a
Open group of handles		_ 🖸 🧉	' 13	13	opened	111	0		not a
		_ 🖸 🧉	' 14	14	opened	111	0		not a
ACN column of group: 5 💌			' 15	15	opened	111	0		not a
		_ 🖸 🧉	16	16	opened	111	0		not a
result			17	17	opened	111	0		not a
<u>o</u>			' 18	18	opened	111	0		not a
			' 19	19	opened	111	V0		not a
			20	20	opened	111	6J		not a
	_		21	21	opened	111	0		not a
view mode			22	22	opened	111	0		not a
• detailed		_ ☑ 🙀	23	23	opened	111	0		not a
_		_ ☑ 🙀	24	24	opened	111	0		not a
hide opened handles		. 🖸 🔒	100	100	opened	111	0		not a '

Number and description of the selected handle are shown in the **SELECTED HANDLE** area.

- In the **OPEN HANDLE(S)** area put in a permitted Access Code Number (ACN) for this handle.
- Click on the button **Open Selected Handle**.

After an analysis by the system you will see if the ACN is accepted in the **Result** field. As soon as the handle has been opened the change of the status of the handle (opened) is shown in the table of handles after the next reading cycle (scan).

By clicking **Open group of handles** each handle having the entered **Acess Code Number** defined as its **ACN column of group** (choose from 1..5) will be opened.

Attention: Please keep in mind that if opening a group of single point latches then these latches may be powered from the same source. Make sure that the power supply can handle the requirement. The sum of current needed by these latches may also exceed the specified current limit of the latch controller module (depends on the used latch type).

Please note that for this reason, latches connected to latch controller modules for 8 single point latches may be excluded from opening for safety.

7.7. Setting of Date and Time

The system includes an internal clock (a timer with an accumulator that makes it independent from the operational voltage). Each event stored in the event log includes the date and time on the internal clock – the **ELM SYSTEM CLOCK**. The expiry date of proximity cards is also determined from this clock.

The index card **Date/Time** allows scanning and adjusting of the system clock.

Alarms Open Handles Config Hand	les Sensors Date/Time System	n Manager Proximity Cards Login Pass	swords IP Properties
ELM SYSTEM CLOCK SETUP		Write new date/time to ELM sys	tem clock
	Current date setting 2003/07/21	Current time setting 09:49:43	
	Choose new date 2003/07/21 💌	Choose new time	
	Use EL	Mcontrol clock	
ELMcontrol CLOCK			
	Current date 2003/07/21	Current time 09:49:43	

The actual time of the system clock is shown in the area **ELM SYSTEM CLOCK SETUP** in the fields **current date setting** and **current time setting**. Adjust the time using the input fields **Choose new date** or **Choose new time** and set the new date or time by clicking on the button **Write new date/time to ELM system clock**.

The **ELMcontrol CLOCK** area shows the time on the connected workstation – the workstation hosting the *ELMcontrol* software. Click on the button **Use ELMcontrol clock** in the **ELM SYSTEM CLOCK SETUP** area to synchronize the system clock with the clock on the workstation hosting the *ELMcontrol* software.

7.8. Proximity Cards

The Proximity Card Reader Module allows the opening of handles with proximity cards (Legic-System). The system can save a list of up to 1000 card entries with permission to open handles. The administration of these card entries is possible from the **Proximity Cards** tab.

• Click on the index tab **Proximity Cards**. You will get to the window below.

EDIT SE CA	LECTED RD ID numb descripti	- IDENTIF per on	ICATIONS		LIN remainin expiring date [(41TA g usi 10:00	TIONS 	0/01/01 💌	Write changes to ELM system
har	die C - ACN C)		ASSIGN					
ROXIMIT	Y CARDS							Click on an	entry to select a ca
table r	ID	validity	description	re	expiring date	h	ACN (A	APF (Access	Permission Flags)
🖋 0001	000001005B4AED61	valid	access code for	Х	2006/01/01;09:00	Х	5299	\times	
💅 0002	00000100E757ED18	valid	opens the back	45	2005/08/01;17:00	2	\times	$\times\!\times\!\times\!\times$	
× 0003	000001005C8DBDC1	expired	(read card)	0	2020/01/01;00:00	1	\times	$\times\!\times\!\times\!\times$	
0004	0000010027A09F06	valid	test card	×	2020/01/01;00:00	×	*****	28 CO E9 (00	101000 11000000 1

The table **PROXIMITY CARDS** shows all card entries for the system. You can sort the list according to each of the displayed columns of the table by a click on the corresponding top of the column. Click again on the same place and the order is reversed.

The table contains the following information:

Table row

The number of the table row, which stores the data of the card, is shown for information.

ID Number

The ID number of the entry identifies the card. It contains 2 to 16 hexadecimal digits.

Attention: A single card can be listed in the table several times with different ID numbers. Additonally, different cards can produce the same ID number at different proximity reading stations. Therefore the number of entries in the table does not necessarily correspond to the number of actually used cards. When a card is held before the reading station of a Proximity Card Reader Module, the module determines the ID number of this card as follows:

- The Proximity Card Reader Module reads two areas from the memory of the card. The start address and the length of each area is defined in the system manager during the configuration of the Proximity Card Reader Module. Every area may comprise a maximum of 8 bytes or 16 digits. The total length of both areas is also limited to 8 bytes or 16 digits.
- Both areas are put together into one number consisting of 2 to 16 hexadecimal figures.
- This number is linked with the ID mask, which is also set during the configuration of the Proximity Card Reader Module. This mask consists of 16 hexadecimal figures. Starting on the left, a bit-wise logical addition (OR-link) is carried out. Bits of no relevance are set to the value 0.
- The result is the ID-number of the card.

Note: If more than one Proximity Card Reader Module is used in the system, be sure that the parameters of the modules (length of card ID, start address of the card Id, and card ID mask) are the same. If the modules' parameters are configured differently, it is possible to get different ID numbers from the same card or the same ID number from different cards. The result is different access rights at different reading stations for each card.

Status symbol

At the left hand side of the ID-number you will find a symbol that gives information on the validity of the card entry.

The following status symbols are displayed:



The card entry is valid.



The card entry is run out.

<u>Validity</u>

The use of every card entry can be limited to a specific number of uses and/or until a particular date and time. If these limits are not reached the card entry is **valid**, otherwise the card entry is **run out** and is not accepted by the reading station.

Description

Every card entry can be assigned a text as description with a maximum length of 31 characters.

Remaining uses

If the number of uses of a card entry is limited, the number of times the card can be used to open handles is listed. If the value is 0, the card has run out. If the use of the card is unlimited the character **X** is shown.

Date of expiry

The expiration date and time of the card entry is displayed. After expiration a card entry becomes invalid.

<u>Handle</u>

If a handle is assigned to the card entry, the handle number is shown. If it is a valid card entry the corresponding handle opens upon reading of the card at a reading station. If no handle was assigned to the card entry the character \mathbf{X} is displayed.

Access Code Number (ACN)

If an access code has been assigned to the card entry this access code is shown. To open a handle the handle number must be selected at a Keypad Module and the card must be read at a card reader. The **holding time** set for the Proximity Card Reader Module and the Keypad Module determines how much time is available for the process. The system checks the access code assigned to the card entry. If the access code is valid, the handle opens. If there is no access code assigned to the card entry the character sequence **XXXXX** is displayed.

Access Permission Flags (APF)

These 24 flags form another method of authorization for opening a handle with a proximity card. Each of the 24 flags can be set or deleted. Each handle (see section 7.5. Configuring Handles and Latches) also has 24 flags, called the Access Requirement Flags (ARF). A handle can be opened by a proximity card when the APF for the card matches the ARF for the handle. With the help of the ARF/APF you can form groups from handles and cards with different opening permissions which can be subdivided hierarchically.

Adding card entries

With the button **Create new entry** it is possible to add a new card entry to the list.

• Click the button **Create new entry**.

A card entry with a serial numbered ID number is added to the list.

• Change settings for the card entry consequently as explained below. Enter the ID number and all necessary parameters.

It is also possible to add the new card entry to the list by use of a reading station.

- Click on the button Read new entry. The button remains on.
- Then hold the card in front of a reading station.

A new card entry is added with the recognized ID number if there is no entry in the list with the same ID number.

- Scan other cards if required.
- Click on the button **Read new entry** to stop scanning cards.

Change settings

• To change the settings for a card entry first select the entry that will be modified by clicking the corresponding row in the table with the <u>left</u> mouse button.

EDIT SEL CAF	LECTED ID numb descriptio	IDENTIFI er 000000 on test ca	CATIONS 10027A09F06 rd APF • 24	ASSIGN	LI remainin expiring date MENT MENT	ИІТА g use D0:00		2/01/01 -		es to em
	CARDO							Clink an a		
		validitu	description	re	evoiring date	h			s Permission Flu	ans)
2 0001	000001005B4AED61	valid	access code for	X	2006/01/01:09:00	X	5299	××××		-3-)
0002	00000100E757ED18	valid	opens the back	45	2005/08/01;17:00	2	****	××××		
X 0003	000001005C8DBDC1	expired	(read card)	0	2020/01/01;00:00	1	×××××	\times		
🖌 <u>0004</u>	0000010027A09F0	<u>valid</u>	test card	X	2020/01/01:00:00	X	<u>×*****</u>	<u>28 C0 E9 (0</u>	0101000 1100	<u>0000 1</u>
	0									

In the EDIT SELECTED CARDS area the parameters of the card entry can be changed.

- Up to 16 hexadecimal figures (0-9, A-F) can be put in for the ID number. In case of an odd number of digits the figure 0 is put in the first place. The card entry is removed if the ID number field is left blank.
- For description enter text with a maximum of 31 characters.
- Assign either a handle number or an ACN or the APF to the card entry.
 - An access code consists of numbers only, comprising at least four and not more than six digits. To remove the access code please delete all characters in the corresponding input field or put in the character X.

- For the handle number you can put in **1** to **512**. If you want to cancel the assignment to a handle number please enter the character **X** or delete the number from the input field.
- Mark all the flags of the APF which you want to set.
- If you want to limit the number of uses for the card enter the corresponding number of uses into the field **remaining uses**. Values from **0** to **254** are possible. The value **0** causes blocking of the card entry. If you want to use the card entry an unlimited number of times, please delete the entry or put in the character **X**.
- Set the expiration date and time of the card in the corresponding fields.
- After the changes have been made click on the key Write changes to ELM system.

The corresponding entries to the table are updated after the next reading cycle (scan).

If the button **Write changes to ELM system** is not clicked any changes made are dismissed as soon as you select another entry or if you leave the **Proximity Cards** tab.

Deleting card entries

- First select the desired card entry by left clicking the row in the table with the mouse. With the control key (Ctrl) or the shift key being pressed at the same time you can select several entries or areas.
- Click on the button **Delete selected entries**.

The entry can also be removed by deleting the ID number in the corresponding input field.

7.9. Configuration of Alarm

The system is capable of administering two alarm lines.

Every alarm line is connected to a relay on the Communications Module. The relays have switch over contacts and can be wired as either normally open (NO) or normally closed (NC). When the alarms are active or latched, the contacts are energized which closes the contacts wired in the NO mode and opens the contacts wired in the NC mode.

The status of both alarm lines is shown in the area **ALARMS** in the left column of the user interface when logged in to the system.

ALARMS	
State of Line 1	1
active	ŏ
latched	

Every alarm line can show one of the following states:

Alar	rm status	Meaning
		No alarm.
	idle	
		At least one alarm source connected to this alarm line reports active
8	active	alarm.
ļ	latched	At least one alarm source connected to this alarm line reports latched alarm. No component connected to this alarm line reports an active alarm.
2	?	The status of alarm is unknown. <i>ELMcontrol</i> has not yet read all necessary information from the system, i.e. the scan process is not complete.

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The **Alarms** tab allows the configuration of the alarm lines and shows the current source of alarm.

• Click on the index tab **Alarms**. You get to the displayed window.



The **CONFIGURE ALARM LINES** area of the index card **Alarms** shows the current status and the configuration of both alarm lines. It allows the configuration of the following settings:

Description

Enter text up to 31 characters.

latch mode (CONTACT OPTIONS area)

This check box shows if alarm shall continue to be reported if all alarms of all components connected to this alarm line are discontinued. With the setting **latch mode** the alarm line is switched over to the alarm status **latched** after all connected components are transformed to the status **idle**. Otherwise the alarm line reports **idle**.

Use the **Reset** button to change alarm lines from the **latched** status to the **idle** status. The reset is carried out immediately.

Relay unpowered/powered if alarm (CONTACT OPTIONS area)

This button determines if the relay of the alarm line is powered with an **active** or **latched** alarm status, or whether the relay is powered with an **idle** alarm status. The last setting allows a transmission of an alarm report if the system is switched off.

trap rate (area TRAP SETTINGS)

Trap mode and time interval for sending SNMP-traps at changes of state of the alarm line.

The following values are possible:

- 0: The alarm line does not send any SNMP-trap (default)
- 1: At each change of the alarm line a trap is sent once.
- 2 .. 250: At each change of the alarm line one trap is sent. But this trap is then repeated every 2 .. 250 minutes.

next trap (area TRAP SETTINGS)

At trap rate settings of 2 .. 250 this is the time up to the next trap (in seconds). In this case you may overwrite this value and so e.g. trigger the next SNMP-trap for test purposes at another time.

• After the desired changes have been made, click on the button **Write changes** to **ELM system**, to save the new settings in the system.

The **CURRENT ALARM SOURCES** area of the index card **Alarms** contains a list of all components of the system that are current alarm sources. Every line describes an alarm source or the cause for alarm. Components which can release several alarms may be listed multiple times.

The **View mode** can be a multi-column **Overview** or a list with all **Details** (shown). You can also sort the list by clicking on the top of each column. With another click on the same place the order of sequences is reversed.

The table contains the following information:

Type and Number

The entry contains the type of component (handle) of the alarm source and the identification number of the component.

Status symbol

On the left hand side beside the types you find a symbol that informs about the current status of the alarm source (operating status, alarm status). The status symbols depend on the type of component. The meaning of the symbol is explained in the chapters dealing with the configuration of the components.

The view mode **Overview** shows only the type, the number, and the status symbol of every alarm source.

Description

Includes the description for the components of the alarm source if a description was entered when the components were configured.

Reason of alarm

The cause for alarm is shown.

Alarm status

The alarm source can be in the alarm states **active** or **latched**. The meaning of these states is explained in the sections dealing with the configuration of the components.

Alarm line

Shows the number of the assigned alarm lines.

Alarm sources in the alarm status **latched** can be switched over to the alarm status **idle** by clicking the **reset selected sources** button.

• First select the desired source by left clicking the desired row in the table with the mouse. With the control key (Ctrl) or the shift key being pressed at the same time you can select several entries or areas or paragraphs.

Click on the key Reset selected sources

7.10. Event Log

In the lower part of the user interface certain events, relevant processes, warnings and errors are shown and recorded. There are two categories of events listed in the *ELMcontrol*-protocol:

- Events which were caused by the ELMcontrol software (ELMcontrol-Event).
- Events which took place in a system and have been saved by the system for the time being - in an internal protocol memory (ELM system-Event).

The entries into the ELM system-event log memory are read and logged by *ELMcontrol*. The event log-memory of the system is a ring type memory. If the memory is filled completely, the oldest event will be overwritten by a new event which needs to be saved. As soon as *ELMcontrol* recognizes that the log is full, it puts a corresponding note into the *ELMcontrol* –protocol that no further ELM system-Events could be registered.

7.10.1. Format of Log Entries

Every entry to the protocol (data log) consists of one line and comprises several paragraphs. The individual paragraphs are separated from each other by semicolon.

A log entry contains the following paragraphs:

Paragraph	Format	Subject
1	Year/Month/Day (YYYY/MM/DD)	Date of <i>ELMcontrol</i> -Protocol entry (ELMcontrol-date)
2	Hour:Minute:Seconds (HH:MM:SS)	Time of the entry to the <i>ELMcontrol</i> (ELMcontrol-time)
3	Text in brackets	Name of the selected system
4	IP-Address	IP-Address of the selected system
5	Text in brackets	Explanations of the event

ELMcontrol-Event

Paragraph	Format	Subject
1	Year/Month/Day (YYYY/MM/DD)	Date of <i>ELMcontrol</i> -Protocol entry (ELMcontrol-date)
2	Hour:Minute:Seconds (HH:MM:SS)	Time of the entry to the ELMcontrol (ELMcontrol-time)
3	Text in brackets	Name of the selected systems
4	IP Address	IP Address of the selected systems
5	"ELM system"	Further paragraphs contain information on ELM system-events
6	Number	Number of the event in the system- Protocol memory
7	Number	Capacity of the system-protocol memory (maximal number of events saveable in the system-Protocol memory)
8	Number	Number of series of the system-protocol memory (number of series the protocol memory is newly used)
9	Year/Month/Day (YYYY/MM/DD)	Date of the entry to the system-protocol memory (ELM system-Date)
10	Hour:Minute:Seconds(HH:MM:SS)	Time of the entry into the system- protocol (ELM system-time)
11	Text in brackets	Type of event

ELM System-Event

7.10.2. Configuration of Log Files

You can save the EVENT LOG to a file by clicking the button **Write to file** in the **EVENT LOG** area on the lower left hand side of the user interface. If the check box on the button Write to File is checked (the default setting after initial installation) log entries are automatically saved in one or several text files. The files can be configured as explained below.

- Select the menu **Options** from the main menu strip.
- Select the **Configuration** menu.
- Click the **Event log** tab of the displayed window.

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The following window is displayed:

Enable log file output	
C Enable continuous logging	
☞ Create a new log file every day; append the date to the log file	name given below
Write events from ELMcontrol and from all ELM systems into a	single log file as named below.
Write only events from all ELM systems into the log file as nam events into a separate log file named as given below, append	ed below. Write ELMcontrol ed by 'ELMcontrol'
Write only events from ELMcontrol into the log file as named b write a separate log file named as below, appended by the na	elow. For each ELM system, me of the ELM system.
og file name specification	Browse
D:\Program files\EMKA\ELMcontrol\ELMcontrol.LOG	

The check box **Enable log file output** corresponds to the button **Write to file** in the **EVENT LOG** area of the workspace. Writing log entries to file(s) can be enabled or disabled.

The buttons below determine whether all log entries are saved into one file or whether a daily file is saved (the default after initial installation). You can also set whether events from different sources will be saved to different files (not selected after initial installation). It is possible to separate ELMcontrol events from system events and to write a separate protocol file for every system.

The input field **Log file name specification** lets you specify the path and file name for log file(s). If only one file is written, the log file uses the designated file name. Otherwise the defined name is interpreted as a base name which is completed depending on the settings with the description of the event source and/or the current date.