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Control Unit ELS RFID Technical Manual

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IOC Trzin fax: +386 1 56 10 744
Špruha 19 web: www.metra.si
Sl-1236 Trzin, Slovenia

System: Metra ELS – Electronic Locking Systems
Product Group: Control Unit ELS RFID
Types:
- ELDRIS (ISO 15693, ISO14443A/B)
- ELDRTG (TechnoGym)
- ELDRLG (Legic)
- ELDRA (Tagsys)
- ELDRLF (LF Multitag)
- ELDRMF (Mifare)
- ELDRSDF (Skidata)
Year of Construction: 2003 - 2006

Declaration of Conformity: The Metra ELS products have been developed, designed and manufactured in accordance with the EU directive for Electromagnetic Compatibility (2004/108/EC).

ELS RFID Technical Manual [rev.1-160710]
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All efforts have been made to ensure the accuracy of the contents of this manual,
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Metra inženiring d.o.o. can assume no responsibility for any errors in this manual.

• Product description

Control unit ELS RFID is used in Metra Electronic Locking System (ELS) which is primarily designed and used for locking lockers.
Control unit ELS RFID has two basic components: Control unit PCB and Display unit. Control unit PCB drives and monitors up to 16 directly connected Metra Electronic Locks (see also: Electronic Lock) and other enhancing accessories.
Display Unit (also connected to CU PCB) is the products user interface. It consists of a 4-digit LED display to show locker numbers (and other UI messages) and a contactless RFID reader. Different RFID readers are supported (see order list).

Enhancing accessories:
- Euro deposit pad limits locker misuse
- Coin acceptor generates revenue from locker use

Product can be used totally independent of Metra network. Wiring all the Control units into a network and adding a Network controller ELS enables additional alarm notification and remote unlocking of locks by pushbutton.
• Basic Parts

• Display Unit

<table>
<thead>
<tr>
<th>#</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 digit LED display with decimal points.</td>
</tr>
<tr>
<td>2</td>
<td>Antenna field or TechnoGym reader.</td>
</tr>
</tbody>
</table>

Standard models are supplied with front mask in gray colour and LED display in blue colour. For additional colours contact Metra sales.

• Control Unit PCB
- Coin acceptor (optional)

- Euro deposit pad (optional)

**Different types**

- **ELCUIS** - ISO 15693 reader 13.56 MHz. Reads all ISO15693 compatible RFID Tags.
- **ELCUSD** - SkiData Reader. Reads all SkiData RFID tickets (125khz as well as 13.56 MHz).
- **ELCULF** - LF Multitag reader. Reads different Low Frequency (125 – 134 kHz) RFID Tags. Hitag 1, Hitag 2, Hitag S, EM Marin
- **ELCUA** - Tagsys reader. Reads C210 and C240 RFID Tags from Tagsys
- **ELCUMF** - Mifare reader. Reads all ISO14443 A/B compatible RFIDTags.
- **ELCULG** - Legic reader. Reads Legic Prime and Legic Advant 13.56 MHz Tags.

- **Lockers ready for Control Unit installation**
  - Each bank of up to 16 Lockers must have special designed box for Control Unit as it is described in Electronic Lock Installation Information. See Appendix from 6 to 8 for Control Unit Box measures.
  - All cables from Electronic Locks must be wired to the Control Unit Box.
  - 12 VDC and Metra NET Network (CAN) must be wired to the Control Unit Box. See *Power Supply Devices – Installation Manual* and *Metra NET Network – Installation Manual* for more details.

- **Electronic locks connection**
  - Plug the cables from Electronic Locks to FLAT 6 connectors on Control Unit PCB.
  
  \[ \text{\texttt{NOTE}} \]
  Mind the ascending order of Locker numbers. Locker number is increasing from left to right (blue arrow).

  Example: most left connector is locker number 120, most right connector is locker number 135.

  \[ \text{\texttt{NOTE}} \]
  Difference between start and end locker number cannot be more than 15.

- **Display Unit connection**
  - Plug in the Display Unit to FLAT 26 connector as shown in the photo. See “Appendix 9 – Inner connections” for connection schematic.
• Power supply connection

Regulated 12 VDC power supply is required for proper operation. Connect as many units as possible to a single power supply unit. Consult the Technical Specifications section of this document for current consumption.

Connect 12V DC regulated power supply to designated terminals. See “Appendix 9 – Inner connections” for connection schematic.

⚠️ WARNING ⚠️

• Mind the polarity! Wrong polarity could result in irreparable damage to the device.
• Respect power requirements data! Using unsuitable power supply could result in damage to the power supply and to the device.
● Network connection

Connect the twisted pair network cable to designated terminals. See “Appendix 9 – Inner connections” for connection schematic.

### NOTE
- Mind the polarity of the network connection!
- Always connect the line terminator at the far end of the network cable!
- Never connect more than one line terminator per installation!

● Tamper sensor connection (optional)

Plug in the Taper sensor to 3 pin connector as shown in the photo. See “Appendix 11 – Tamper Alarm sensor (optional)” for connection schematic.

### NOTE
Use normally closed switch contact sensor.
Example of Tamper magnetic sensor mounting.

### Coin Acceptor connection (optional)

Plug in the Coin acceptor to FLAT 10 connector as shown in the photo. See “Appendix 12 – Coin Acceptor (optional)” for connection schematic.

### Signalization

#### Power-on signalization on Display Unit

When the unit is running, a blue dot in the left side of display is flashing.
• Power-on signalization on Control Unit PCB

When the unit is running, a green LED is on.

• Operation signalization on Control Unit PCB

Control Unit PCB has a blinking red LED operating indicator. This signal is under software control indicating that the device is running.

**Fast blinking:** when parameters in Construction mode.

**Slow rhythmic blink:** if operating parameters downloaded.
• Operating modes

Normal

Construction

Error

• Construction Mode

Control Unit delivered from Metra is in construction mode. It shows on display “ConS” to remind user to set his own operating parameters. Network address is not set (is set to broadcast).

• Operating parameters

<table>
<thead>
<tr>
<th>parameter</th>
<th>default value</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locker Number</td>
<td>SLOC = 1, ELOC = 16</td>
<td>Has two sub-parameters: SLOC (start number) and ELOC (end number).</td>
</tr>
<tr>
<td>Audio Signal</td>
<td>LO</td>
<td>Audio signal volume.</td>
</tr>
<tr>
<td>Network ID</td>
<td>0</td>
<td>Metra NET Network (CAN) address.</td>
</tr>
<tr>
<td>Emergency opening</td>
<td>OFF</td>
<td>If “On” all lockers can be unlocked at once (via Network Controller).</td>
</tr>
<tr>
<td>White List</td>
<td>OFF</td>
<td>If set to “On” the Control Unit asks server computer via Metra NET network (CAN) if particular RFID ticket has permission to lock the Locker.</td>
</tr>
<tr>
<td>Auto opening</td>
<td>0</td>
<td>If set (minutes), each locked locker will be automatically unlocked after this number of minutes.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>User Waiting time</td>
<td>5</td>
<td>This is the time (seconds) that Control Unit waits user to present the RFID Ticket after the Locker door is closed and pre-locked.</td>
</tr>
<tr>
<td>Locker Level</td>
<td>1</td>
<td>Each Control Unit can be in one of the 4 Locker Levels. With the same RFID Ticket only one Locker at each level can be locked. When 0 is selected, no level is checked (each control unit works off-line). Metra NET Network must be connected to operate.</td>
</tr>
<tr>
<td>Payment device</td>
<td>NO</td>
<td>Turn this parameter on YES, if payment device is connected to your Control Unit.</td>
</tr>
<tr>
<td>Number of Coins</td>
<td>1</td>
<td>Number of Coins, must be set to 1 (only if PAY is set to YES).</td>
</tr>
<tr>
<td>Coin Value</td>
<td>1.00</td>
<td>Value of the coin that is accepted by Coin acceptor (only if PAY is set to YES).</td>
</tr>
<tr>
<td>Tenancy Duration</td>
<td>8 h</td>
<td>Tenancy Duration (only if PAY is set to YES). Number of hours when no additional payment required when closing the locker with the same RFID Ticket.</td>
</tr>
<tr>
<td>Currency</td>
<td>Euro</td>
<td>Currency (only if PAY is set to YES).</td>
</tr>
</tbody>
</table>

### Setting Operational parameters – via network

- PC must be running and Download List in ELS/ELS NET/LCC NET software ready.
- Control Unit(s) must be in Construction Mode.
- By presentig any card (RFID card must be supported by reader on the Display unit) to the Display Unit you trigger the request for operating parameters.
- Operating parameters are downloaded to the Control Unit and sign “ConS” in no longer displayed on the Display Unit
- Check if correct operating parameters were downloaded. See chapter “Functional Test” for more details

**NOTE**

Mind the Download List ascending order when triggering the operating parameters requests on different Control Units.

### Setting Operational parameters – by Setup keypad

**NOTE**

Setup keypad connects to the same connector on Control Unit PCB that is used for connecting the Coin Acceptor. If Coin Acceptor is connected, disconnect it before connecting the Setup keypad. Disconnect the Setup keypad and reconnect the Coin Acceptor after you finish setting the operational parameters.

Plug in the SETUP KEYPAD to FLAT 10 connector as shown in the photo on the next page. See “Appendix 12 – Setup Keypad” for connection schematic.
When you connect the SETUP KEYPAD to the Control Unit, it automatically enters parameters setting mode. You can scroll through menu with UP and DOWN keys. Use the ✓ key to Enter and ✗ key to cancel.

**NOTE**
After you unplug the SETUP KEYPAD, control unit turns to idle mode.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Key</td>
<td>Cancel</td>
</tr>
<tr>
<td>Up Key</td>
<td>For scrolling through the menu</td>
</tr>
<tr>
<td>Down Key</td>
<td></td>
</tr>
<tr>
<td>✓ Key</td>
<td>Enter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>parameter</th>
<th>procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="LOCn" /></td>
<td>While sign “LOCn” is displayed press the ✓ key. Sign “SLOC” starts flashing on a display (first locker number). Confirm it with the ✓ key. Select the number of the first locker (the lowest locker number on this Control Unit). Confirm it with the ✓ key. Sign “ELOC” starts flashing on a display (end locker number). Confirm it with the ✓ key. Select the number of the last locker (the highest locker number on this Control Unit). Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
<tr>
<td><img src="image" alt="Aud" /></td>
<td>While sign “Aud” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to change the audio signalling to High “HI”, Low “LO” or silent “OFF”. Confirm the selection with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
</tbody>
</table>

**NOTE**
Difference between start and end locker number cannot be more than 15.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Network ID</strong></td>
<td>This parameter takes effect only when several Control Units are connected to each other via single 2-wire network cable. Each Control Unit needs to have unique network ID in the range from 1 to 999. After Locker Level is set also, you can assure that one Smart Card can lock only one locker in each locker level. While sign “Id” is displayed press the ✓ key. With UP and DOWN keys on the Keypad compose desired network ID (from 1 to 999) for this Control Unit. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
<tr>
<td><strong>Emergency opening</strong></td>
<td>Remote emergency opening can be activated by pressing a button on the Network Controller (or by Timetable). Each Control Unit can be set to enable or disable this feature. While sign “EOPn” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to enable (On) or disable (OFF) Emergency opening. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
<tr>
<td><strong>White List</strong></td>
<td>If set to “On” the Control Unit asks server computer via Metra NET network (CAN) if particular RFID ticket has permission to lock the Locker. While sign “LIS” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to enable (On) or disable (OFF) White List. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
<tr>
<td><strong>Auto opening</strong></td>
<td>Automatic opening can be set to open all lockers connected to the control unit after desired time. Time can be set from 1 to 9999 minutes. If 0 is selected then automatic opening is turned OFF. While sign “AOPn” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to select desired time in minutes. Set time to 0 to disable (OFF) Automatic opening. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
<tr>
<td><strong>User Waiting time</strong></td>
<td>While sign “USR” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to select desired time in seconds. Time can be set from 2 to 8 seconds in 1 second steps. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
<tr>
<td><strong>Locker Level</strong></td>
<td>While sign “LEu” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to select desired Locker Level. Locker Level can be set from 1 to 4. If 0 is selected Locker Level function is disabled (OFF). Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.</td>
</tr>
</tbody>
</table>
### Payment device

While sign “PAY” is displayed press the ✓ key. Press any number on a Keypad to enable (on) or disable (OFF) payment device. Confirm the selection with the ✓ key. Press UP or DOWN key on the Keypad to enable (On) or disable (OFF) payment device. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.

**NOTE**

After the PAY parameter is set to “On”, four additional sub-parameters are accessible in parameter selecting mode. Set them regarding your Coin Acceptor (Currency, Value of used coins and number of Coins) and required Tenancy Time (value OFF means payment for every locking procedure).

### Number of Coins

While sign “P no” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to select desired number of coins needed for locking the locker. Number of coins can be set from 1 to 5 in 1 coin steps. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.

**NOTE**

It is recommended that the number of coins is set to 1.

### Coin Value

While sign “P co” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to select desired coin value. Coin values that can be selected are: 0.10, 0.20, 0.25, 0.50, 1.00, 2.00 and 5.00. Confirm it with the ✓ key.

**NOTE:** Choose the proper value regarding your coin acceptor When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.

### Tenancy Duration

While sign “P dU” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to select desired tenancy duration. Tenancy duration can be set from 0 hour to 24 hours in 1 hour steps. If 0 is selected there are no limits once locker is paid. It can be locked and unlocked any time without payment. If OFF is selected payment is needed on every locking procedure. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.

### Currency

While sign “P dS” is displayed press the ✓ key. Press UP or DOWN key on the Keypad to select desired currency. Currency can be set to: Euro, Coin, GbP, PAY and USd. Confirm it with the ✓ key. When parameter setting is accepted, sign “YES” is displayed. Control Unit returns to parameter selecting mode.

---

**Actions initiated – by Setup Keypad**

For technical details about Setup Keypad and how to connect it to the Control unit, see chapter Setting Operational parameters – by Setup keypad.
<table>
<thead>
<tr>
<th>action</th>
<th>procedure</th>
</tr>
</thead>
</table>
| Adding Master keys         | While sign “Add” is displayed press the ✓ key. Countdown begins and vertical lines are displayed. With a card you want to turn into a Master key approach to the antenna field. When card is recognized sign “YES” is displayed. **NOTE:** If no card is recognized and countdown is ended Control Unit returns to parameter selecting mode. Remove the card. Control Unit returns to STEP 2.  

**NOTE**  
You can make more Master keys in a row. |
| Erasing all Master keys    | While sign “ErAS” is displayed press the ✓ key. “SHUr” is displayed and blinking. Press and hold the ✓ key for a few seconds to confirm or press the ✗ key to cancel. When parameter setting is accepted, sign “YES” is displayed if the ✓ key was pressed or sign “no” is displayed if the ✗ key was pressed. Control Unit returns to parameter selecting mode. |
| Resetting values to        | This erases all current parameter values and sets them back to factory default parameter values.            |
| construction ones         | While sign “ConS” is displayed press the ✓ key. “SHUr” is displayed and blinking. Press and hold the ✓ key for a few seconds to confirm or press the ✗ key to cancel. When parameter setting is accepted, sign “YES” is displayed if the ✓ key was pressed or sign “no” is displayed if the ✗ key was pressed. Control Unit returns to parameter selecting mode. |
| Closing the lockers for    | While sign “CLOS” is displayed press the ✓ key. Time countdown begins and vertical lines are displayed. Close locker connected to Control Unit. **NOTE:** If no locker is closed and countdown is ended Control Unit returns to parameter selecting mode. Locker number of the closed locker is displayed. Control Unit restarts the time countdown.  

**NOTE**  
You can close multiple lockers in a row. |
| transportation            |                                                                                                             |
| Testing all lockers       | While sign “CLOP” is displayed press the ✓ key. Time countdown begins and vertical lines are displayed. Close locker connected to Control Unit. **NOTE:** If no locker is closed during time countdown, time countdown restarts. Locker number of the closed locker is displayed. Locker opens after 2 seconds. Control Unit restarts the time countdown.  

**NOTE**  
You can test multiple lockers in a row.  

**NOTE**  
To exit the test you have to unplug the SETUP KEYPAD. If you want to continue setting parameters or initiating actions plug SETUP KEYPAD back in. |
### Setting Operational parameters – via serial port by notebook

- Export the Download file from the ELS/ELS NET/LCC NET software by clicking on “Get Download File” button.
- Copy exported file (*.lccdwnld) to the Laptop computer.
- On the Laptop computer run LCC Download software.
- Connect the Control Unit to the Laptop via RS-232 port and download exported file to the Control Unit.

### Alarm signalisation

- If locker brake-in is detected the alarm notice is displayed.
- The interrupted acoustic signal is turned on. Display alternately shows ‘-AL-‘ notice and the locker number.

### Checking Alarm functionality

The purpose of the test is to make sure that each Electric Lock functions properly. Locks can be tested only when they are unlocked (locker door opened).

- **Checking of locker Alarm**
  - Simulate locking procedure without closing the Locker door (press on the plunger). After the Lock is locked, release the plunger and ALARM has to be activated.

- **Checking of Control Unit box Alarm**
  - When MASTER Card is not present, ALARM will activate each time you open Control Unit Box (CU Box ALARM switch must be connected).
• Functional Test

We assume that all lockers are assembled correctly as it is described in Electronic Lock Installation Information and all cables correctly wired and connected to the Control Unit.

Sign “COnS” should no longer be displayed on Display Unit.

Checking the lockers wiring order
Closing the lockers
Locking the lockers
Unlocking the lockers

This test is performed at the end of installation procedure. This test can also be done prior to installation on the field (technical failure can occur during the transport).

△ NOTE △
Check if Control Unit is powered on.

• Checking locker wiring order

Slowly press and release the plunger of each Electric Lock several times.

After fourth press the Locker number appears on the display.

△ NOTE △
Check if displayed number corresponds to the Locker number fixed on the door!

△ NOTE △
When in “Construction mode” (sign “COnS” is displayed), locker numbers (indexes) are from 1 to 16 for each Control Unit.

• Locking / Unlocking of All Lockers

The purpose of the test is to make sure that each Electric Lock functions properly. Locks can be tested only when they are unlocked (locker door opened).

• Locking procedure


• Unlocking procedure

Service procedures

This chapter describes possible repair procedures for Electronic Locker – based on the spare parts list in the document “METRA ELS Electronic Locker Order Information”. The problem should be identified before any repairing is tried.

**NOTE**
Disconnect the power supply connector before changing any cables!

Control Unit PCB replacement

**STEP 1:** Disconnect the power supply.

**NOTE**
Disconnect the adapter not the wires fixed on the PCB to avoid short circuit.

**STEP 2:** Open the Control Unit box (see Locker manufacturer’s documentation).

**STEP 3:** Disconnect all cables and mark their exact position.

**STEP 4:** Replace the Control Unit with a new one.

**STEP 5:** Reconnect all cables exactly the same as they were connected previously.

**STEP 6:** Fix the Control Unit PCB inside its box.

**STEP 7:** Power on the Electronic Locker.

**STEP 8:** Download parameters as they were on the previous Control Unit.

Display Unit replacement

This action is generally performed if mechanical parts of the Front Panel are damaged or if some electronic parts of the front panel (display, signal lights) fail.

For procedure of changing the mechanical part of the Front Panel, follow the Locker Manufacturer's Instructions!

**STEP 1:** Disconnect the power supply.

**NOTE**
Disconnect the adapter not the wires fixed on the PCB to avoid short circuit.

**STEP 2:** Open the Control Unit box (see Locker manufacturer’s documentation).
STEP 3: Disconnect all the cables and mark their exact position.

STEP 4: Remove old Display Unit from the Control Unit’s box panel.

STEP 5: Replace the Display Unit front panel with a new one (see the Locker Manufacturer’s Documentation).

STEP 6: Reconnect all cables exactly the same as they were.

STEP 7: Close the Control Unit box (see Locker manufacturer’s documentation).
• Maintenance

No special maintenance is needed.

The maintenance people should check the device operation at least once a year. Regular cleaning is recommended.

• Cleaning

Regular cleaning is recommended. Display Unit should be cleaned using soft cloth and dedicated cleaners for plastic surfaces e.g. car dashboard cleaning agents. Do not use any aggressive or abrasive agents or solvents as they might cause permanent damage to the device surface.

See Locker manufacturer instructions for proper cleaning procedure.

Direct spraying or splashing water can cause damage to Control Unit or Electric Locks!

• Troubleshooting Guide

<table>
<thead>
<tr>
<th>trouble</th>
<th>explanation / solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing happens after card is presented - reader is off.</td>
<td>Check the power supply. 12 VDC present?</td>
</tr>
<tr>
<td>Locker door closed while locking and nothing happens.</td>
<td>Adjust the door strike. Check the Electric Lock. Replace the Electric Lock if necessary.</td>
</tr>
<tr>
<td>The Locker door not ejected when unlocked.</td>
<td>Adjust the door strike.</td>
</tr>
<tr>
<td>Display shows »Err«.</td>
<td>Check the Display Unit – Card reader. Replace it if necessary.</td>
</tr>
<tr>
<td>Right blue dot on a display is turned on.</td>
<td>Check the doors (if any jammed – Unlocked Lock &amp; Closed Door at the same time). Check the Download parameters, if all set locks (from 1-16) are also connected to the PCB.</td>
</tr>
</tbody>
</table>

• Technical data

<table>
<thead>
<tr>
<th>Operating voltage</th>
<th>12V DC regulated (11.5 – 15V DC tolerated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption</td>
<td>0.65 A peak, 0.45 A average</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>0 to +50 °C</td>
</tr>
</tbody>
</table>
Audio signal integrated piezoelectric beeper
Visual signalization 4 digit LED display with decimal points.
Alarm output Normally opened and normally closed contact (1A – 120 VAC, 60 VDC)
Network type CAN network interface to Network Controller
Buffer capacity 40 records

Appendix

1 - 5 Setting operational parameters and initiating actions with Setup Keypad
6 Control Unit Box - Technical drawing A
7 Control Unit Box - Technical drawing B
8 Front panel - Technical drawing of Display Unit
9 Inner connections
10 Download connection
11 Tamper alarm sensor (optional)
12 Coin Acceptor (optional)
13 Setup Keypad
14 Network schematic
15 Cable installation
16 Electric Locks connection (example 1)
16 Electric Locks connection (example 2)
17 Main Module (example)
18 Standard Module (example)
19 Bank of lockers (example)
Appendix 1

ELS Control Unit RFID
Setting operational parameters and initiating actions with Setup Keypad

Menus

PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
ACTION
ACTION
PARAMETER
PARAMETER
ACTION
ACTION
ACTION
PARAMETER
PARAMETER
PARAMETER
PARAMETER
PARAMETER
Appendix 2

ELS Control Unit RFID
Setting operational parameters and initiating actions with Setup Keypad

Changing locker numbers  PARAMETER

Changing audio signal  PARAMETER

Setting network ID  PARAMETER

Setting Emergency opening  PARAMETER

Setting White list  PARAMETER
Appendix 3

ELS Control Unit RFID
Setting operational parameters and initiating actions with Setup Keypad

- Setting Automatic opening: **PARAMETER**
- Adding Master keys: **ACTION**
- Erasing all Master keys: **ACTION**
- Setting up user waiting time: **PARAMETER**
- Setting up locker level: **PARAMETER**
Appendix 4

ELS Control Unit RFID
Setting operational parameters and initiating actions with Setup Keypad

Resetting values to construction ones  

Closing all lockers for transportation  

Testing lockers  

Setting Pay parameter  

Number of coins  

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Metra inženiring d.o.o.
Appendix 5

ELS Control Unit RFID
Setting operational parameters and initiating actions with Setup Keypad

Coin value  PARAMETER

Tenancy duration  PARAMETER

Currency  PARAMETER
space required to fix mask on the Locker (maintenance lock, hinges,..., detail of Locker Manufacturer)

Cable Inlet

min 100

min 234

min 300

min 100

min 165

min 38

min 30

1

16

230

57 - min 38

min 290

min 300
Appendix 8

ELS Control Unit RFID
Front panel - Technical drawing of Display Unit
Appendix 9

ELS Control Unit RFID
Inner connections

- Electric Lock
- Up to 16 Locks
- Optional Tamper Sensor
- Control Unit PCB
- Contacts opened when the door is opened
- Display Unit
- PC Software Parameters Setting

*To TechnoGym Reader (if present)
Appendix 10
ELS Control Unit RFID
Download connection

PC Software
Parameters Setting

SCOD and CODE can be reset to default value "1234"
Appendix 11
ELS Control Unit RFID
Tamper alarm sensor (optional)
Appendix 12

ELS Control Unit Keypad
Coin acceptor (optional)

To Coin Acceptor

Setup Keypad

To Setup Keypad
Appendix 13

ELS Control Unit RFID
Network schematic
Cable installation

- Power Supply 12 V DC/1A per Unit
- External Alarm
- Lockers (optional)
- Optional Cables
- Twisted Pair 2 x 0.5 mm²
- Standard case (PVC 70 mm)
- Installation Pipe (PVC 16 mm)
- Bank of Lockers
- 220 V AC
- 220 V AC

CEILING

FLOOR

110 cm
Appendix 15

ELS Control Unit RFID
Electric Locks connection (example 1)
Appendix 16

ELS Control Unit RFID

Electric Locks connection (example 2)
32 boxes
Cabinets - 1st floor area at the wall - right.