Roger Access Control System

Apartment locks

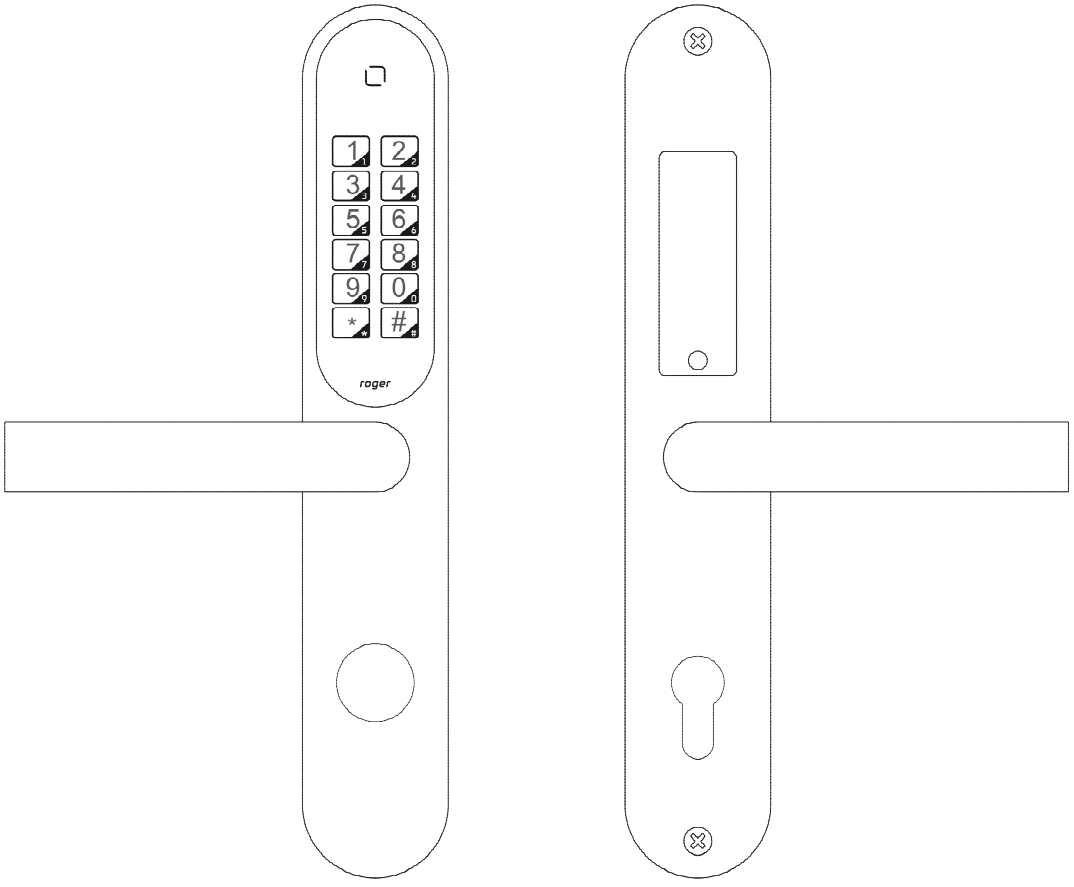
ADL-2 and ADL-2-BLE

v1.0

User Manual

Firmware version: v1.0

Document version: v1.0 Rev. B



DESIGN AND APPLICATION

ADL-2 locks provides remote management of access to B&B apartments without the need to hand over keys or proximity cards. With remote issuing of identifiers guests, lock enables the functionality of a "virtual reception". Access to the room is possible after entering the PIN or with smartphone and Roger Mobile Key app installed.

The RogerMDM app allows to configure the lock and read the history of entries to the room. The lock can be fitted to most doors using an existing mortise lock.

CHARACTERISTICS

- Access to the apartment by means of an electronic lock
- Guest can access via a PIN or smartphone with RMK app installed
- Facility staff can access by a proximity card
- Access identifiers delivered to guests by mobile text (SMS) or email
- Access identifiers purchased in the Roger Cloud
- Access identifier with start/expiry date
- Automatic removal of previous identifiers when the newer one is used
- Option to disable selected identifiers
- Lock latch controlled with traditional lock cylinder
- Electronic lock can be opened with a metal key
- Exit from room by means of internal handle
- Access log in the internal memory
- Lock installed as replacement of traditional mechanical escutcheons and with original mortise lock
- Powered by 4 x AAA batteries
- Typical life of 1 year with average 10 readings per day
- Brushed stainless steel lock body
- Front escutcheon dimensions: 46 x 280 x 27 mm (width x height x depth)
- Rear escutcheon dimensions: 46 x 280 x 20 mm (width x height x depth)
- Escutcheon mounting with two 5 x 50 mm screws
- Lock spacing (handle-cylinder distance): 72 mm
- Door thickness: 38 to 75 mm

LOCK VERSIONS

Depending on door opening direction and location of handle (left or right side) it is necessary to select proper version of the lock.

Version	**Description**
ADL-2-L ADL-2-BLE-L	Left hand door and left hand reverse door
ADL-2-R ADL-2-BLE-R	Right hand door and right hand reverse door

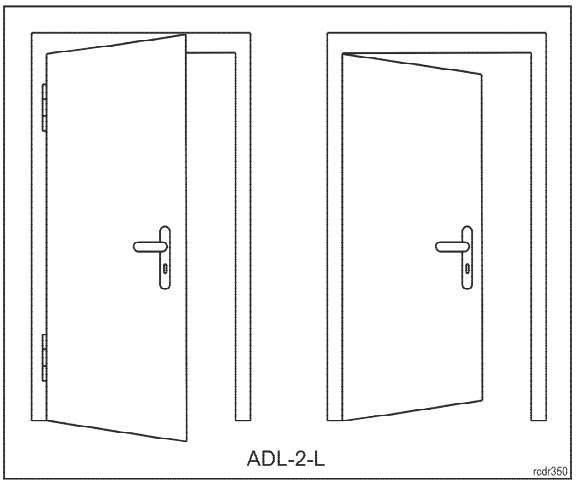


Fig. 1. Installation of ADL-2-L and ADL-2-BLE-L

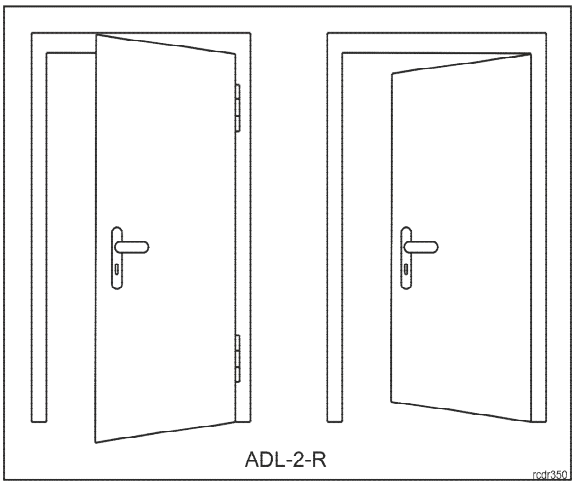


Fig. 2. Installation of ADL-2-R and ADL-2-BLE-R

Mechanical construction

External part of lock

The external part of ADL-2 consists of escutcheon with handle and it is dedicated to installation at the entry to controlled room. The escutcheon includes keypad, card reader (A) and hole for door cylinder which can be used for emergency door opening with metal key. The electronic module which is located inside the escutcheon includes service pins (B) and connector (C) for programming cable. Wires with plug (D) are used to connect external and internal parts of the lock.

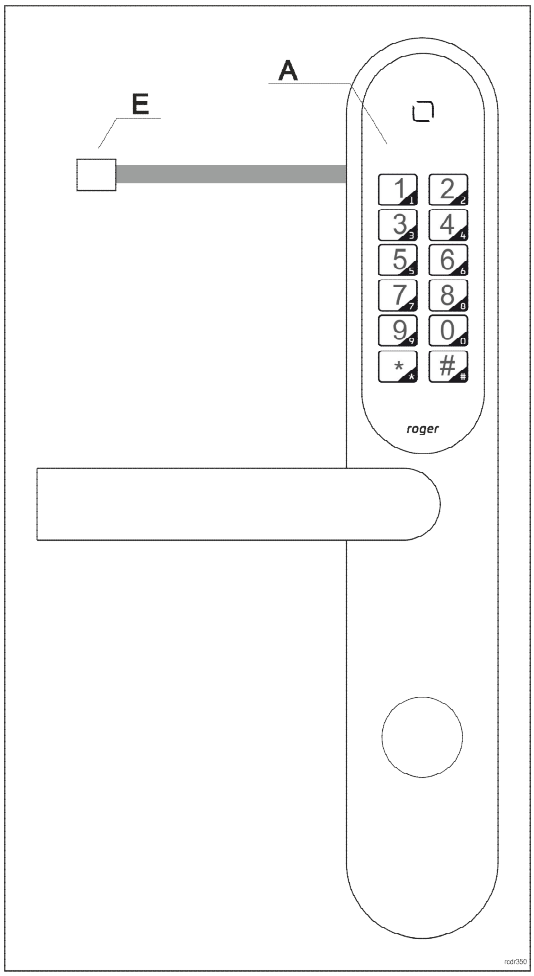


Fig. 3. External part of lock

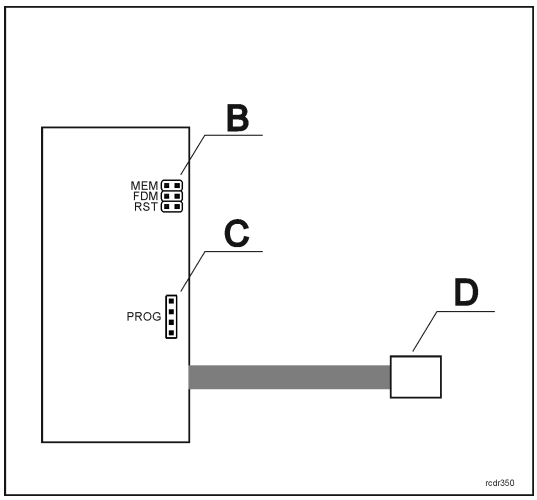


Fig. 4 Electronic module

Internal part of lock

The internal part of lock consists of escutcheon with handle and it is dedicated to installation at the exit from controlled room. The internal escutcheon includes battery pack with cable and connector (G) which is used to connect supply to external part of lock (E) in fig 3. In order to replace batteries unscrew bolt to remove the cover

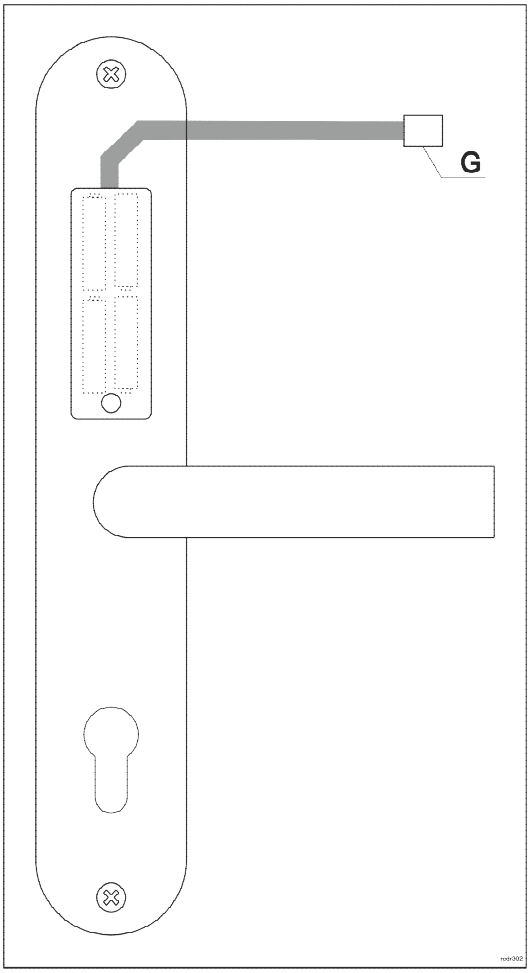


Fig. 5. Internal part of lock

Door cylinder

ADL-2 lock is adapted to installation of typical door cylinder. Such cylinder enables emergency door opening from the outside using metal key. The size of cylinder depends on door thickness and it must be selected in such way that it would not protrude by more than 16mm over door surface on external side and not more than 21-24mm on internal side. It is also possible to install thumbturn cylinder in ADL-2 lock.

FUNCTIONAL DESCRIPTION

In order to access the apartment the user must enter valid PIN using lock's keypad. The PIN must be started with '*' (when pressed then keypad backlight is on) and finished with '#'. Alternatively, PIN can be stored on proximity card by means of Roger MDM app and then the access can be granted by card reading at the lock. In case of ADL-2-BLE the access can be also granted using smartphone with Roger Mobile Key app (iOS, Android) installed.

Note: ADL-2 locks support only MFC-4 (Roger) proximity cards.

ADL-2 locks can be operated in Office mode. When the mode is enabled then the lock is permanently opened (external handle is engaged) and door can be opened without PIN or any other identification method.

It is possible to deactivate particular PIN by assigning it to the list of blocked PINs. This can be done by means of PIN Master or Roger MDM app. Only single PIN8/12 can be activated in the lock. When new PIN8/12 is entered then the previous one is automatically blocked.

Note: Depending on the configuration of lock, when invalid PIN is entered a few times then the lock can be temporary blocked. The lock can be also blocked with PIN Block and then access can be granted only when PIN Emergency is used.

PIN types

ADL-2 locks support PIN types as in table below. PIN8 and PIN12 are intended for guests as they validity is limited in time. When new PIN8/12 is entered then the previous one is automatically blocked in the lock.

PIN type	Description
PIN 8	PIN with 8 digits. PIN includes expiry time and its start time precedes expiry time by 12 months. Validity period is defined with 1 day resolution. This PIN type is dedicated to guests.
PIN 12	PIN with 12 digits. PIN includes expiry time and start time. When validity period is shorter than 42 days then it can be defined with 1 hour resolution. Otherwise it is defined with 1 day resolution. This PIN type is dedicated to guests.
PIN Single	PIN with 12 digits. PIN includes expiry time and its start time precedes expiry time by 12 months. Validity period is defined with 1 day resolution. This PIN type enables single access to the apartment and it is disabled after first use.
PIN Office	PIN with 12 digits. PIN includes expiry time and its start time precedes expiry time by 12 months. Validity period is defined with 1 day resolution. This PIN type enables to toggle office mode in the lock.
PIN Service	PIN with 12 digits. PIN includes expiry time and its start time precedes expiry time by 12 months. Validity period is defined with 1 day resolution. It is possible to define 16 PINs of this type without time limits. This PIN type is dedicated to maintenance personnel.
PIN Master	PIN with 12 digits. This PIN type enables to open lock and to move selected PINS to the list of blocked PINs. Use following command to block particular PIN: *1*[PA]*[PIN]# where [PA] is PIN Master and [PIN] is the one which is supposed to be blocked.
PIN Block	PIN with 12 digits. This PIN type enables to block the lock completely. When blocked then the lock can be opened only with PIN Master or PIN Emergency.
PIN Emergency	PIN with 16 digits. This PIN type enables to open lock which is blocked with PIN Block.
PIN Reset	PIN with 16 digits. This PIN type enables to restore factory default settings of the lock.

Note: PIN Emergency and PIN Reset are not programmable so they must be especially protected and not revealed to unauthorised persons.

PIN generating

Programmable PINs are generated via rcs.roger.pl website. After logging in to the web interface, define your device in the ADL-2 PIN section ("Add device" button). To do this, enter the CID of the

device, communication password and MAC BLE (data is available to read using Roger MDM application). Additionally, it is possible to define a device description for easy identification.

Note: Once the device is added to particular account then it cannot be added to another account.

The 'PINs' button allows you to manage PIN codes for the selected lock. When generating a PIN of the selected type, you can enter an email address and/or a phone number to which the notification with the PIN code will be sent.

The 'Delete old PINs' button removes expired codes from the database (alternatively, you can hide them from the view by selecting 'Hide expired').

PIN shortening

In case of PIN8 and PIN12 it is possible to shorten them to 6 digits and use them in the same way. Use following command to shorten the PIN:

3[PIN]*[S]#

where [PIN] is PIN8 or PIN12 and [S] is shortened PIN.

Alternatively, shortened PINS can be generated with Roger MDM app in accordance with the section *Programming and configuration/PINs.*

PIN blocking

Use following command to block particular PIN:

1[PA][PIN]#

where [PA] is PIN Master and [PIN] is the one which is supposed to be blocked. Alternatively the PIN can be blocked with Roger MDM app in accordance with the section *Programming and configuration/List of blocked PINs.*

Write the PIN on the card

In order to write the pin on the card, use the command *8*[PIN]#, where PIN is the code that is to be saved on the card, and then put the proximity card against it.

Remove PIN from the card

To remove the PIN from the card, on the reader to which the PIN you want to remove is assigned, call the command *8*00000000# (eight zeros), and then apply the proximity card.

LED indicators

ADL-2 lock is equipped with multicolour LED, which is dedicated to signal device states as in the table below. In the bottom part of front panel there is located red LED to indicate battery level. When this LED is on after PIN is entered then low battery level is reported and batteries must be replaced.

Signalling	Description
Red – ON	Red light during PIN entry signifies proper operation of the lock
Green – ON	Access granting, door unlocked.
Red – two pulses	Access denying – wrong PIN or the lock is blocked with PIN Block.
Blue – pulsing	Lock is communicating with smartphone.
Yellow – ON	Internal clock requires programming.
Yellow – pulsing	Lock fault. It is necessary to restore factory default setting and reprogram the lock.

PROGRAMMING AND CONFIGURATION

ADL-2 lock can be programmed with Roger MDM app (Android, iOS). When the app is started then the list of devices saved in the application is displayed. To detect the ADL series device in the vicinity of the phone, press '*' on the lock. When key icon is displayed at particular lock then it means that PINs are configured in the lock.

When lock is selected on the screen then the list of configured PINs is displayed. Other options are available by long click and selection of command from menu.

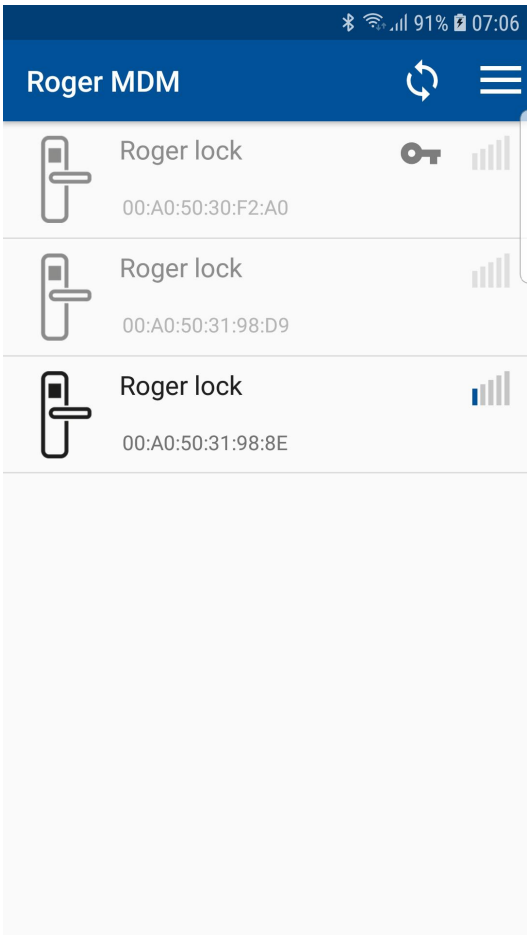


Fig. 6 List of locks in Roger MDM app

PINs

When ADL-2 lock is clicked on the screen then list of PINs stored in the memory of the lock is displayed. Select '+' on title bar to add new PIN and then enter 8 or 12 digits as well as enter name for the PIN. Depending on selected option, PIN is recorded in the app database and optionally it can be sent to lock (e.g. for verification) to unblock the door.

In case of ADL-2-BLE, when PIN is clicked on the list then identification process is started via Bluetooth (BLE) radio communication.

When PIN is long clicked the context menu is displayed with following commands:

Edit	Command is used to change name of the PIN.
Generate shortened PIN	Command enables to define shortened PIN (6 digits) which is recorded in the lock and can be used instead of full PIN 8/12.
Save PIN on card	Command enables to store PIN in the memory of proximity card so the card could be used instead of PIN at the lock. The card can store 32 PINs, each for single lock only. Follow displayed

	instructions to save PIN on card.
Remove PIN from card	Command removes particular PIN from the memory of proximity card. Follow displayed instructions to remove PIN from card.
Remove	Command removes PIN from the list but it does not remove it from the lock.

Configuration

If communication password is not defined in the app then warning is displayed in the window where the password can be entered (when confirmed without password defining then default password is used). The same warning can sometimes be displayed in case of communication errors. When confirmed then already define password is used again to re-establish the communication.

The configuration can be edited when there is no active connection with the lock – such new configuration can be saved in the app and uploaded later to the lock.

When configuration in the app and lock are inconsistent then warning is displayed (including last edit date) in order to choose which configuration is prevalent.

Menu with following icons and commands is displayed in title bar.

Icon	**Description**	
	Saves configuration in app database and uploads it to the lock if it is in Bluetooth (BLE) range.	
	Stores configuration in app database.	
	Additional options:	
	Synchronise clock	Synchronizes lock clock with and app clock.
	Restore default	Restore default settings both in the app and lock.
	Save PIN on card	Saves up to 32 PINs (one per lock) in the memory of proximity card. Depending on selected option, PINs are added to existing list or replace the list. Follow displayed instructions to save PINs on card.
	Format card	Removes all PINs from memory of proximity card.
	Remove temporary blockade	Clears temporary blockade of lock resulting from multiple failed attempts to enter PIN.

Lock settings	
Parameter	**Function**
BLE communication settings	
BLE encryption key	Password for encryption of Bluetooth (BLE) communication. Default value: empty.
BLE transmission power [dBm]	Transmission power for Bluetooth (BLE) communication. The higher power the shorter battery life. Default value: 6.
Name	Device name used for easier identification.
Device settings	
User encryption key	Individual key for encryption of PINs. Default value: empty (no encryption).

Door open time [s]	Door opening time when access is granted. Default value: 3 s.
Limit attempts of entering PIN	The maximal number of PIN entry attempts on lock's keypad. When exceeded then lock becomes temporary blocked. When set to 0 then blocking is disabled. Default value: 0.
Lock\'s block time [min]	Lock blocking time when failed attempts limit is exceeded. Default value: 3 min.
Buzzer volume level	Buzzer loudness level. Default value: 2.
Keypad backlight level	Keypad backlight level. Default value: 2.
Timeout between keys in PIN [s]	Maximal time between two consecutive key pressings on lock keypad. Default value: 6s.
Daylight saving time	Automatic switching between summer/winter time. Default value: enabled.
PIN Block	PIN which blocks lock permanently. Default value: enabled.
PIN settings	
PIN8	Parameters enables use of 8 digits PINs. Default value: enabled.
Shortened PINs	Parameter enables to define shortened PINs. Default value: enabled.

List of blocked PINs

The list includes all blocked PINs (max. 255). When list is full then the newest PIN replaces the oldest one.

Block	Command enables to block particular PIN.
Remove outdated	Command removes all blocked PINs which are outdated and cannot be used anymore for access granting.
Remove all	Command removes all blocked PINs including ones which are not outdated and could possibly be used for access granting.

Events

The list includes events registered in the lock. It is possible to send report in PDF format to specified email address.

Identify device

Command activates acoustic and optical signalisation at ADL-2 lock. This is mainly used to identify particular lock.

Remove lock

Command removes lock from the list of registered devices in Roger MDM app.

Memory reset

Memory reset erases all programmed PINs and restores factory configuration settings. In order to perform memory reset procedure:

- Remove jumper from the MEM pins (if applicable).
- Short RST pins for a moment preferably by placing and removing jumper.
- When acoustic signalization is started and orange LED indicator pulsates, place jumper on MEM pins and the device will confirm memory reset with 3 acoustics beeps.

INSTALLATION

The lock is designed for mounting in door with 38 to 75mm thickness, with mortise lock installed and with 72mm handle spacing. Prior to installation make sure that door cylinder is long enough. The lock is delivered with two handle pins and two sets of bolts with different length. In case of door with 55m or greater thickness, longer bolts should be used.

Power supply

Lock is supplied from 4 x AAA batteries. Assuming average 10 openings of lock per day, alkaline batteries enable 1 year operation of the lock. Low battery level is signalled by red LED indicator with battery icon (in the bottom part of keypad panel). The indicator will signal low battery level only when PIN is entered and then it switches off.

Lock installation

- Make holes in door using drilling template.
- Lead battery wires (fig. 5, pos. G) through hole and then connect with wires from external part of lock (fig. 3, pos. E).
- Make sure that handle pin hole is positioned in such way that marker (red dot) indicates door top hinge (fig. 7) and then install handle pin inside the lock.
- Install 4 x AAA batteries in the pack.
- Mount escutcheon and verify the operation of internal handle and door cylinder, particularly if handle latch is retracted when metal key is used.

Note: Preserve metal key for emergency opening of door.

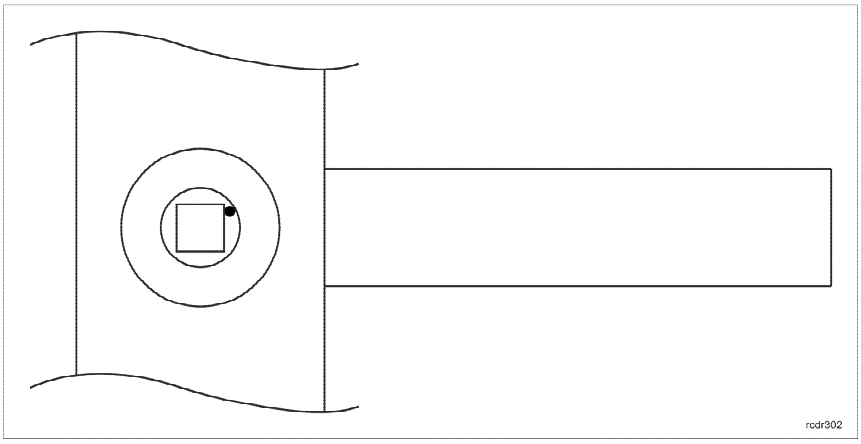


Fig. 7. Proper installation of handle mechanism

Specification

Parameter	Value
Power supply	4 x AAA (LR03) alkaline batteries
Battery life	1 year with 10 entries per day
Door thickness	38 – 75 mm
Handle spacing	72 mm
Built-in card reader	ISO/IEC 14443A MIFARE®
Environmental class (acc. to EN 50131-1)	Class I, indoor general conditions, temperature: +5°C to +40°C, relative humidity: 10 to 95% (no condensation)
IP code	IP40

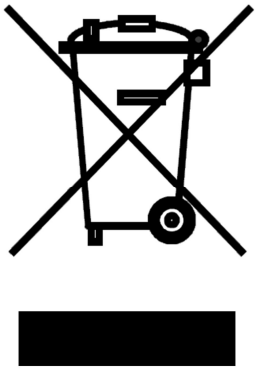
Dimensions	47 x 280 mm
Weight	Approx. 1100 g
Certificates	CE

Ordering information

Product	Description
ADL-2-L	Apartment lock; remote generation of access codes; access by PIN or proximity card; four AAA battery supply; left hand version; normal or reverse bevel
ADL-2-R	Apartment lock; remote generation of access codes; access by PIN or proximity card; four AAA battery supply; right hand version; normal or reverse bevel
ADL-2-BLE-L	Apartment lock; remote generation of access codes; access by PIN, proximity card or Android/iOS mobile phone; four AAA battery supply; left hand version; normal or reverse bevel
ADL-2-BLE-R	Apartment lock; remote generation of access codes; access by PIN, proximity card or Android/iOS mobile phone; four AAA battery supply; right hand version; normal or reverse bevel
MFC-4	13.56 MHz MIFARE DESFire EV1 2K ISO size thin PVC proximity card

Product history

Product version	Released	Description
1.0	VI 2021	The first commercial version of the product



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