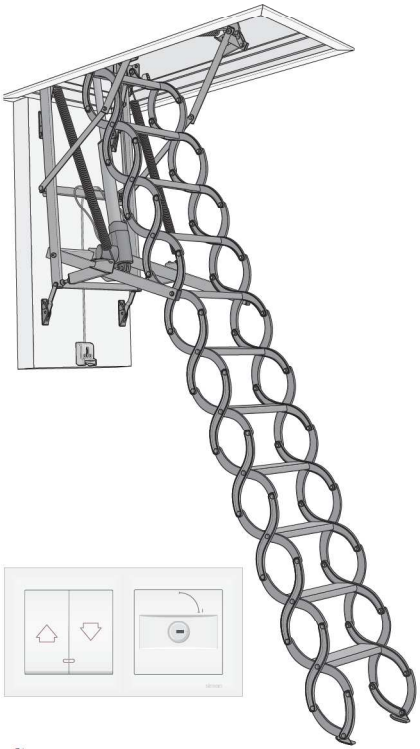
FAKRO

ORIGINAL INSTRUCTIONS 2/3

ELECTRIC LOFT LADDER

LET

ZWMS





SAFETY RULES	2
WIRING DIAGRAM	3
CONTROLLER INSTALLATION	4
PROGRAMMING	6
ADDITIONAL FUNCTIONALITY	7
OPERATION	8
LADDER LOCK	9
DECLARATION OF CONFORMITY	9
EMERGENCY RELEASE	10
TROUBLESHOOTING	11
ADDITIONAL FUNCTIONS	12
Z-WAVE DEVICE COMPATIBILITY	12
ADVANCED INFORMATION	12
WARRANTY	16

NC 9D7-GB_LET Z-Wave_ZWMS_26.10.26_FAKRO_KB-295 mobile

http://www.fakro.com/download/film-installation-instructions/roof-windows/

FAKRO Sp. z o.o.
ul. Węgierska 144A, 33-300 Nowy Sącz, PL
tel. +48 18 4440444, fax +48 18 4440333
www.fakro.com

KIT DESCRIPTION

The electric loft ladder kit consists of a scissor ladder, a 24 V DC actuator, a ZWMS control module with wall switches, and a 24 V DC power supply.

The control module has a built-in Z-Wave radio interface that enables direct operation of the ladder using a remote control. The module also has two potential-free control inputs that enable wired operation using a wall switch.

It is recommended to install a key-operated wall switch to prevent unauthorised or accidental operation of the ladder.

TECHNICAL SPECIFICATIONS

POWER SUPPLY	ACTUATOR	RADIO INTERFACE	
Input voltage: 100-240V AC ~50/60Hz **Rated power:** 120W **Output voltage:** 24V DC	**Supply voltage:** 24V DC **Maximum thrust force:** 5000 N **Actuator duty cycle:** 10%, max 2min ON/ 18min OFF	**Radio protocol:** Z-Wave **Range:** Up to 20 m indoors	**Frequency:** EU - 868,42 MHz AS/NZ - 921,42 MHz US/Canada - 908,4 MHz RU - 869 MHz (depending on the version)

SAFETY RULES

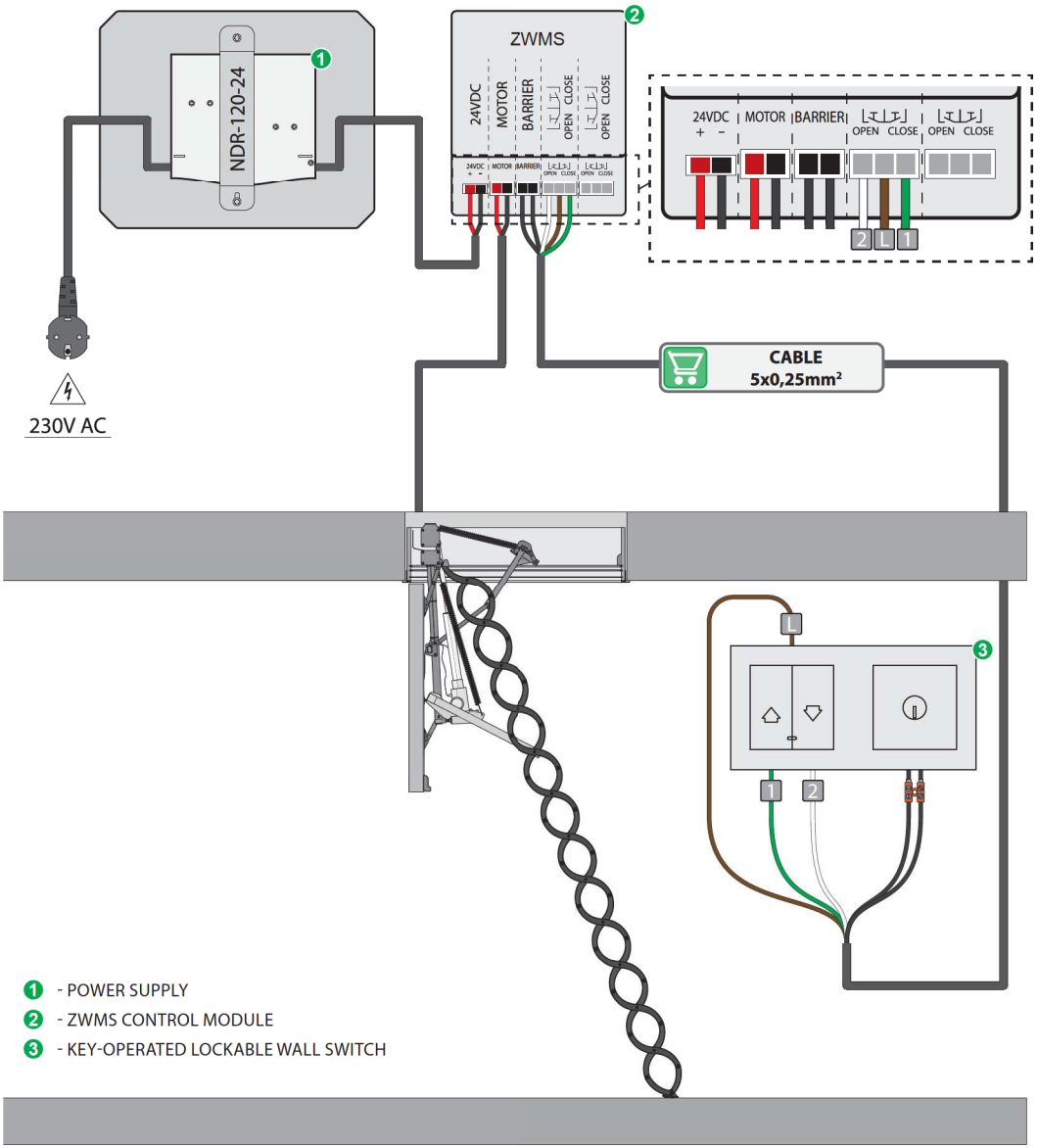


Warning! Moving parts. Keep fingers and other body parts away!

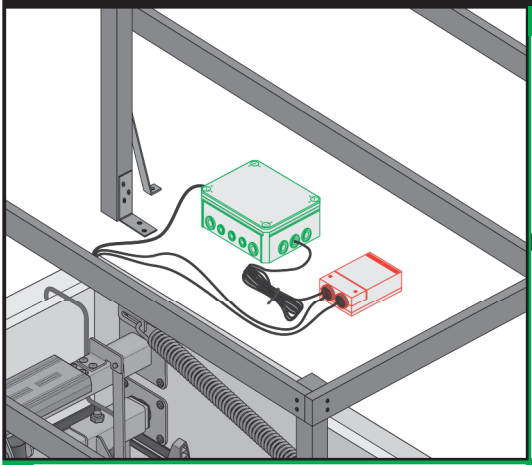
- After unpacking, check that the components of the LET kit show no signs of mechanical damage.
- Keep plastic packaging out of the reach of children, as it may pose a hazard.
- The control kit is intended for installation at altitudes below 2,000 m above sea level. The kit should preferably be installed on or above the ceiling, but at a height of less than 2 m.
- The LET kit must be installed and connected by a qualified installer in accordance with the enclosed instructions. Incorrect wiring or improper installation of the controller cover may create a fire hazard.
- The dedicated power supply must be used.
- Before connecting the LET kit, make sure that the supply voltage matches the voltage specified on the rating plate.
- The LET kit must only be used for its intended purpose.
- The electrical installation must include an easily accessible double-pole isolating switch with a contact gap of at least 3 mm.
- The potential-free control cables connected through the switch must not exceed 30 m in length.
- The electrical circuit supplying the kit must be protected by a 10 A fuse.
- The safety rules must be strictly observed. The LET kit is equipped with an electric actuator. The actuator used to operate the ladder poses a risk of personal injury. Although the actuator mechanism is equipped with an overload switch, the forces generated are high enough to cause injury.
- This equipment is not intended for use by persons, including children, with reduced physical, sensory or mental capabilities, or by persons lacking experience or knowledge of the equipment, unless they are supervised or have been instructed in the use of the product by a person responsible for their safety.
- The ladder may only be operated while it remains in full view.
- A safety zone must be established around the installed ladder to eliminate the risk of crush injuries.
- Do not open or fold the ladder while a person is standing on it.
- It is recommended to install a safety railing around the loft opening to prevent falls.
- Improper use may result in slipping and falling from the ladder.
- It is dangerous to use the ladder if it has not been correctly adjusted to the height of the room. The supporting screws in the ladder brackets must be adjusted correctly.
- Before each use, check that the fully extended ladder rests on the floor.
- Ensure easy access to the power socket and electrical plug.
- The ladder must be disconnected from the mains by unplugging the power cable supplied with the kit in the following situations:
  - When carrying out any cleaning or adjustment work, or when removing electrical components from the LET kit.
  - During thunderstorms.
  - If visible signs of water ingress are found on the ladder components, disconnect the ladder until the components have dried and been inspected. During this period, the ladder may only be opened and operated using the emergency opening mechanism.
- Do not use solvents or an unrestricted stream of water to clean electrical components. Do not immerse the electrical components in water.
- Repairs must be carried out by the manufacturer's authorised service centre. Any interference with the controller outside the designated connection compartment will void the warranty and may cause product malfunction and/or create a fire hazard.
- The product must be inspected after every 400 operating cycles (one cycle consists of opening and closing), and at least once every 12 months. The inspection must be carried out by an authorised person.
- Personal protective equipment and appropriate safety devices must be used due to the risk of injury during maintenance or servicing caused by the opening or closing hatch or by the extending or folding ladder.

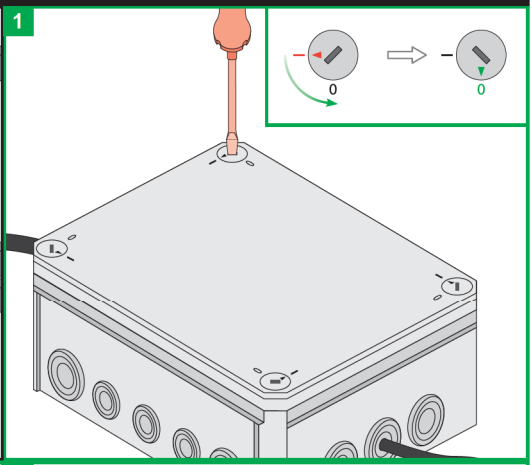
WIRING DIAGRAM

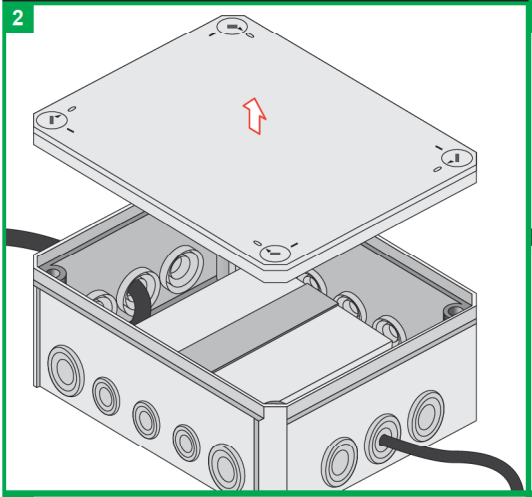
Connect the kit to the mains supply as shown in the diagram below.

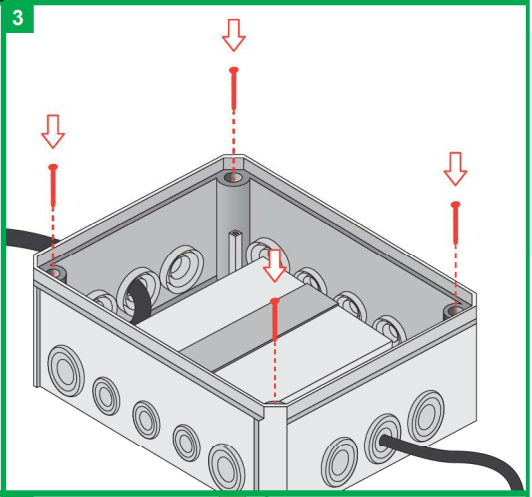


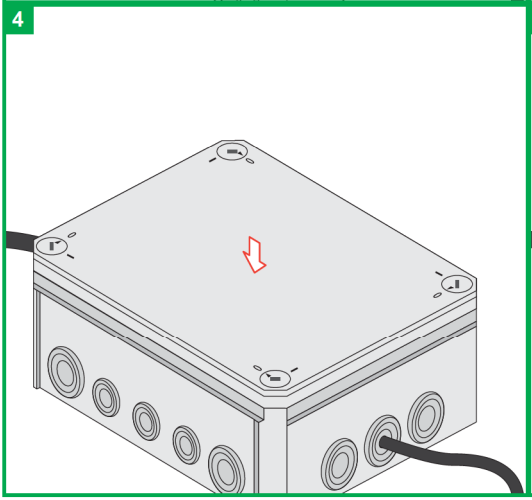
CONTROLLER INSTALLATION

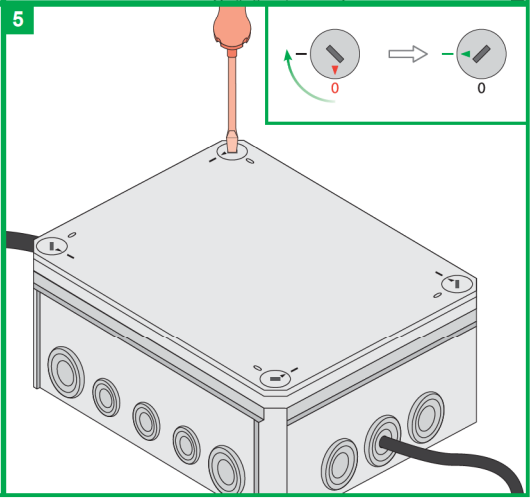


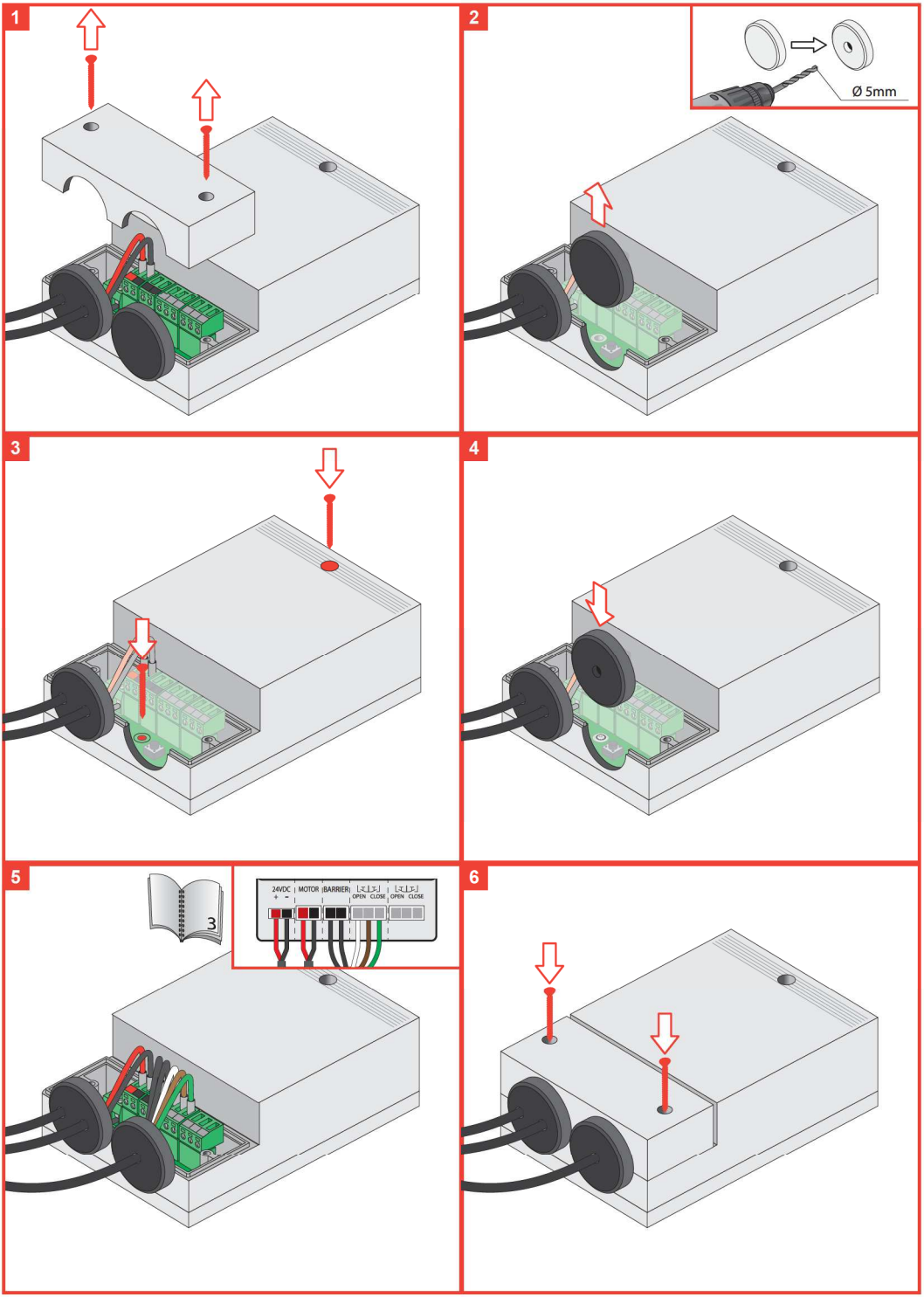










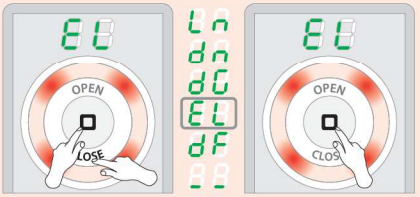

1
2
Ø 5mm
3
4
5
3
24VDC
+ −
MOTOR
BARRIER
OPEN
CLOSE
OPEN
CLOSE
6

PROGRAMMING

The device is paired with the remote control at the factory. If control problems occur, add the device to the Z-Wave network again. The device can only be added when the "P" LED is illuminated continuously or flashing. To do this, perform the "Removing the ladder-to-remote-control association" procedure.

1 SETTING THE REMOTE CONTROL TO PROGRAMMING MODE

REMOVING THE LADDER-TO-REMOTE-CONTROL ASSOCIATION



Press and hold the STOP and CLOSE buttons simultaneously until configuration mode is activated.

Use the OPEN/CLOSE buttons to select the indicated option, and confirm by pressing the STOP button.

PAIRING THE LADDER WITH THE REMOTE CONTROL

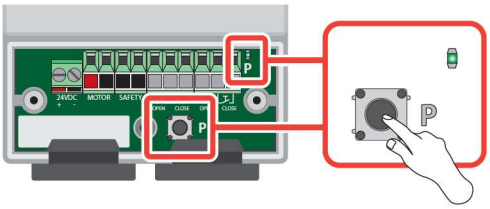


Press and hold the OPEN and STOP buttons simultaneously until configuration mode is activated.

Use the OPEN/CLOSE buttons to select the indicated option, and confirm by pressing the STOP button.

2 SETTING THE LADDER TO PROGRAMMING MODE

METHOD 1



Within 30 seconds, press the P button to set the device to programming mode.

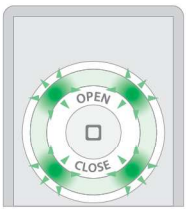
METHOD 2*

OFF / ON

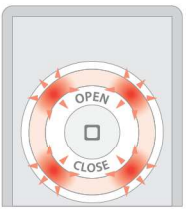
Within 30 seconds, cycle the power supply to the device.

* This function allows a device installed in a difficult-to-access location to be added remotely to the Z-Wave network without pressing the programming button. Each time the power supply is switched on, the device enters Autoinclusion mode, provided that it has not already been added to a Z-Wave network. This mode remains active for a maximum of 10 minutes.

3 PROGRAMMING RESULT



The procedure has been completed successfully. The green backlight flashes once.



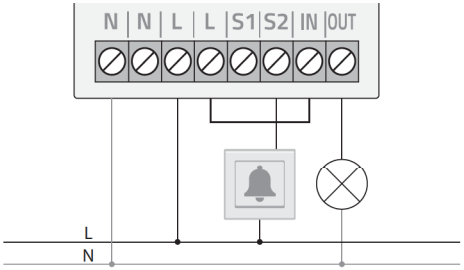
Error. The red backlight flashes three times. Repeat the procedure, carefully following each step.

ADDITIONAL FUNCTIONALITY

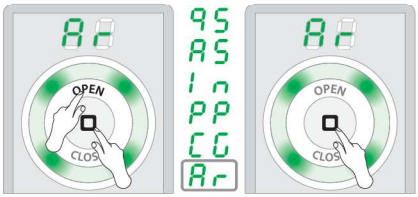
The ZWMO230 module can be used to make the loft more convenient to use. The module switches the light on when the loft ladder is opened and switches it off when the ladder is closed. Connect the ZWMO230 module as shown in the diagram below.

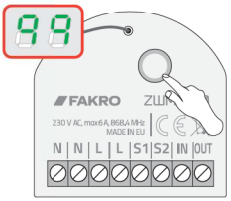
WIRING DIAGRAM

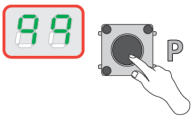




PROGRAMMING







OFF / ON

Press and hold the OPEN and STOP buttons simultaneously until configuration mode is activated.

Use the OPEN/CLOSE buttons to select the indicated option, and confirm by pressing the STOP button.

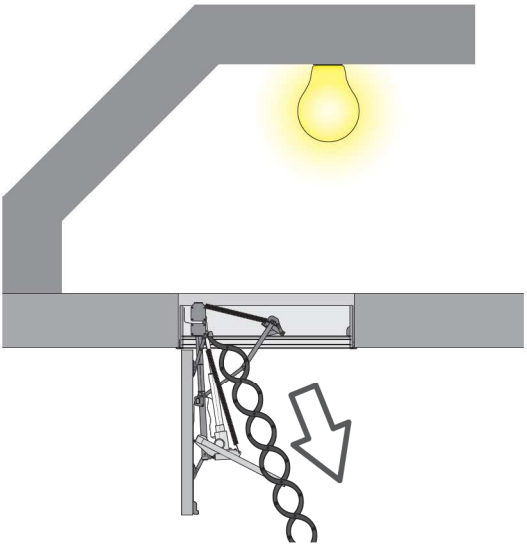
CONTROLLED DEVICE

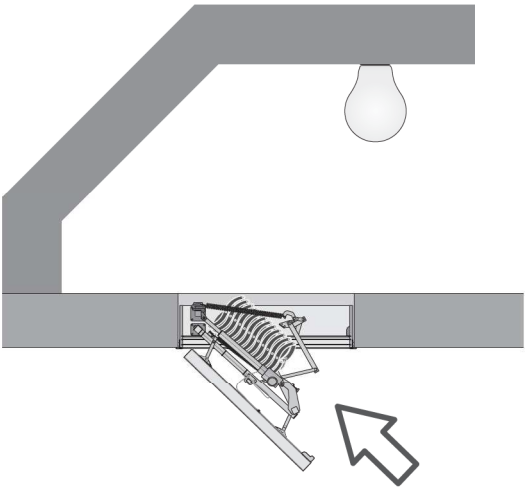
Within 99 seconds, set the device that is to be controlled by another device to programming mode*1.

CONTROLLING DEVICE

Within 99 seconds, set the device that is to control another device to programming mode*1.

FUNCTIONALITY

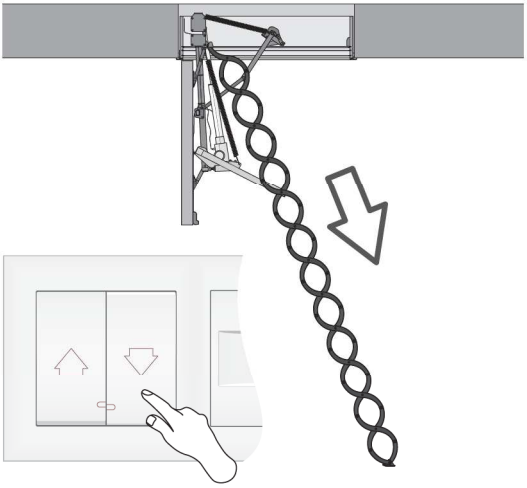




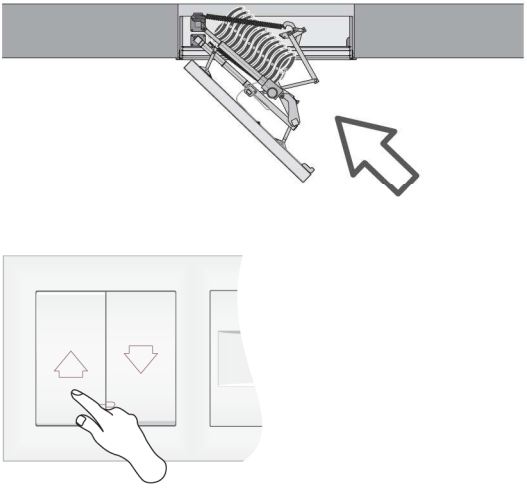
OPERATION

MANUAL OPERATION

Warning! Before operating the ladder, establish a safety zone beneath it.



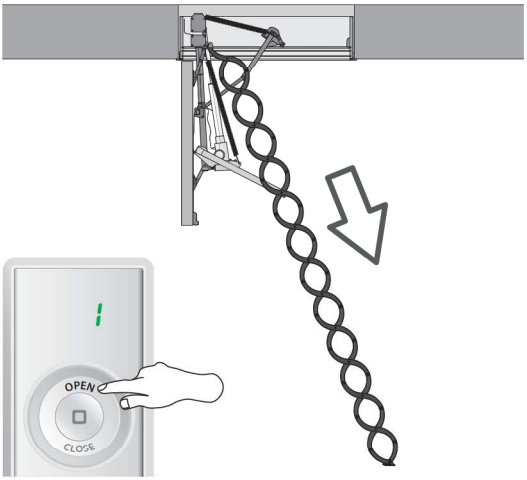
Press and hold the DOWN button to open the ladder.



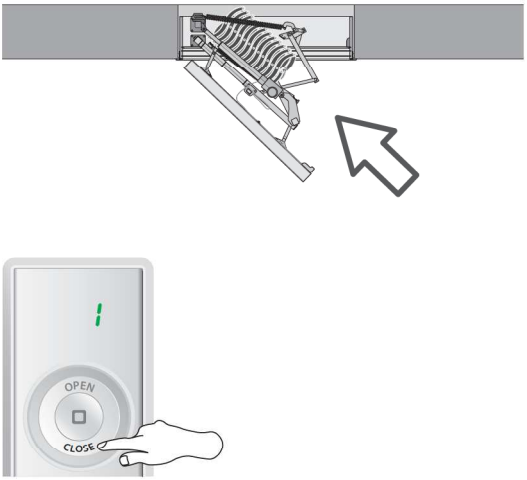
Press and hold the UP button to close the ladder.

REMOTE OPERATION USING THE ZRHS REMOTE CONTROL

Warning! Before operating the ladder, establish a safety zone beneath it.



Press the OPEN button to open the ladder.

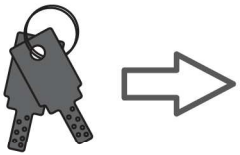


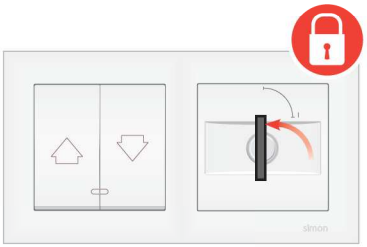
Press the CLOSE button to close the ladder.

Press the centre button to stop the ladder.

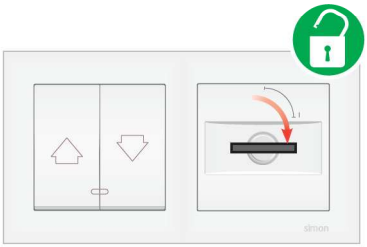
LADDER LOCK

It is recommended to install a key-operated wall lock to prevent unauthorised or accidental use of the ladder. A key-operated lock integrated into the wall switch prevents accidental operation of the ladder and its use by children or unauthorised persons.





Turn anticlockwise to lock the ladder.



Turn clockwise to unlock the ladder.

DECLARATION OF CONFORMITY

FAKRO Sp. z o.o. hereby declares that the LET radio equipment is in compliance with Directive 2014/53/EU (RED).
The full text of the EU Declaration of Conformity is available at the following internet address:
https://www.fakro.com/ce-declarations/search/

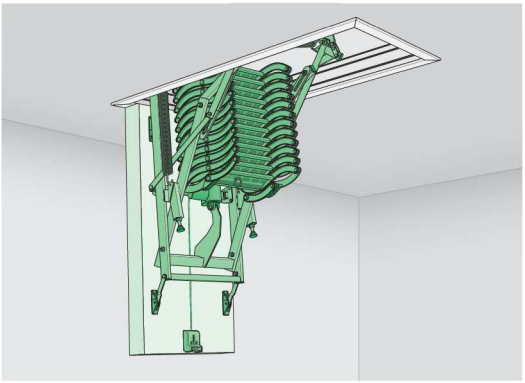
COMPLIANCE WITH THE WEEE DIRECTIVE

Equipment marked with this symbol must not be disposed of with municipal waste.
The user is responsible for taking the used equipment to a designated recycling collection point.

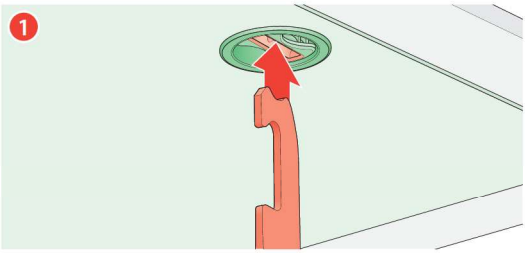
EMERGENCY RELEASE

In the event of a power failure, the ladder can be opened and closed manually using the mechanical emergency release. When performing the operations described in this section, pay particular attention to the following safety instructions.

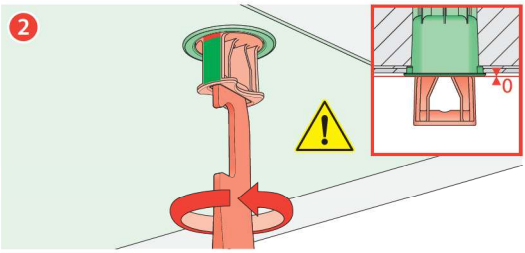




RELEASING



Insert the end of the operating rod into the recess in the catch on the hatch.



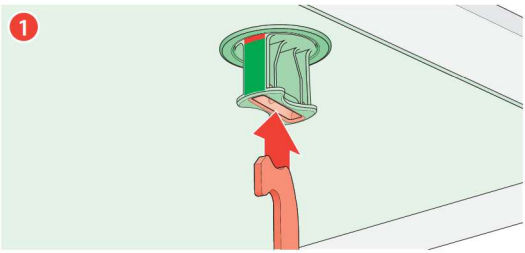
Turn anticlockwise until the catch component is flush with the surface of the hatch, as shown in the diagram. This operation can also be performed manually, without using the operating rod.

The actuator is released.

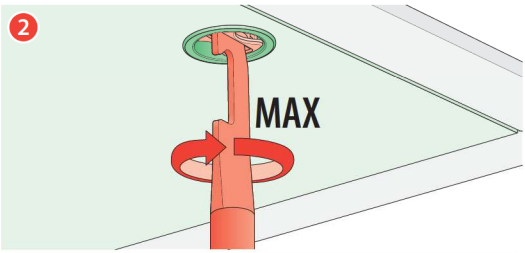
The ladder can be opened and closed manually.

Unscrewing the catch any further may damage the kit.

LOCKING



Insert the end of the operating rod into the recess in the catch on the hatch.



Turn clockwise until the catch is fully screwed in. This operation can also be performed manually, without using the operating rod.

The actuator is locked.

The ladder can now be opened and closed electrically.

Danger of entrapment! People may become trapped in the loft. If they are unable to escape, this may result in serious injury or death.

Regularly check that the emergency release operates correctly from the inside and, where applicable, from the outside. Any faults must be rectified immediately by a qualified person.

Danger from moving ladder components! Once the emergency release has been activated, the ladder is released and may descend unexpectedly. This may cause serious injury.

Exercise particular caution when folding or extending the ladder while using the emergency release. No unauthorised persons may remain within the operating area of the ladder.

The emergency release is intended solely for opening or closing the ladder in the event of a failure. It must not be used for the regular operation of the ladder, as this may damage the actuator or the ladder. Using the ladder in emergency mode is not recommended.

The release function may only be used in emergencies, such as a power failure.

When the emergency release is activated, the ladder may extend automatically or descend unexpectedly quickly due to improper weight distribution and the operating characteristics of the scissor ladder. The ladder structure may be damaged.

The ladder may be locked or released when open or closed and with the ladder section in any position, provided that the safety instructions above are observed. Do not operate the ladder electrically while locking or releasing the emergency opening mechanism, as this may damage the actuator coupling.

TROUBLESHOOTING

POSSIBLE CAUSE	SOLUTION
1. The ladder cannot be operated using either the ZRHS remote control or the control switch.	
No power is supplied to the control kit.	Check that the mains circuit supplying the control kit is switched on. If necessary, release the ladder and open it manually in accordance with the instructions.
The key-operated switch is set to OFF.	Check the position of the key switch and set it to ON.
Open circuit in the key-lock circuit.	Check circuit continuity and verify that the connections have been made correctly.
Open circuit in the actuator circuit.	Check circuit continuity and verify that the connections have been made correctly.
2. The ladder cannot be operated using the ZRHS remote control. The control switch works correctly.	
The device is outside the radio range.	Check whether the remote control works at a shorter distance.
The remote-control batteries are discharged.	Replace the batteries in the remote control.
The remote control displays "0" and is no longer programmed.	Reprogram the remote control on channel 1 in accordance with its instructions.
3. The ladder cannot be operated using the control switch. The ZRHS remote control works correctly.	
The control switch is connected incorrectly or the switch circuit is open.	Check the control-switch connection against the wiring diagram in the instructions.
4. The ladder stops in an intermediate position and does not reach the fully open or fully closed position.	
The overload protection prevents the ladder from closing.	Remove the obstruction preventing the ladder from closing.
The controller's overload limit is set too low.	Contact the manufacturer's service centre to have the correct limit set.
5. The "SS" message appears on the remote control when the ladder is operated.	
The service counter has exceeded 400 opening and closing cycles. The ladder must be inspected by service personnel.	Have the product inspected by qualified personnel. Reset the service counter using the supplied remote control by changing the value of parameter "91" (see the Z-Wave configuration parameters and the remote-control instructions).

Warning! The control system may only be repaired by a qualified person trained by the ladder manufacturer.

ADDITIONAL FUNCTIONS

ALL ON / ALL OFF - Enabling this function allows all devices to be controlled simultaneously.

Refer to the remote-control instructions for information on configuring additional functions.

Z-WAVE DEVICE COMPATIBILITY

Z-Wave enables the integration of devices from different manufacturers, including lighting, heating and home-automation equipment. Z-Wave devices repeat the received signal, thereby extending the radio communication range.

This product is compatible with other certified Z-Wave devices from different manufacturers. All mains-powered devices from these manufacturers operating within the same Z-Wave network can route signals through other devices, which may extend the network range.

Information on adding devices to a Z-Wave network using controllers from other manufacturers can be found in the operating instructions for those products.

ADVANCED INFORMATION

ASSOCIATION GROUPS

1. Life Line – A group used to report the actuator position after each stop and to report an alarm condition (overload). The group may contain a maximum of one device.

2. Basic Repeat – A group used to forward received movement commands (Basic Set) to devices belonging to this group. The group may contain a maximum of five devices.

3. Multilevel Repeat – A group used to forward received movement commands (SWITCH MULTILEVEL SET, SWITCH MULTILEVEL START LEVEL CHANGE and SWITCH MULTILEVEL STOP LEVEL CHANGE) to devices belonging to this group. The group may contain a maximum of five devices.

ADVANCED FUNCTIONS

Function	Description	LED indicator	
		Motor status	Z-Wave network status
Local device reset	Resetting the Z-Wave device without using a controller. The device will be removed from the Z-Wave network. The default parameters, names and locations will be restored. Press the P programming button five times.	-	Light ON
Local parameter reset	Resetting the Z-Wave device parameters without using a controller. The default parameters, names and locations will be restored. Press the P programming button three times.	-	Flashes five times
Autoinclusion	Adding a device installed in a difficult-to-access location to the Z-Wave network. Each time the power supply is switched on, the device enters Autoinclusion mode, provided that it has not been assigned to a Z-Wave network. The mode remains active for a maximum of 10 minutes.	-	Flashes for 10 minutes

Z-WAVE CONFIGURATION PARAMETERS

Parameter	Parameter No.	Value	Default value	SET (sending)	GET (query)
Service counter reset	91	0 1 2	-	0 - Reset the service counter	1 – The service counter has not exceeded 400 cycles 2 – The service counter has exceeded 400 cycles
Service counter since the last reset	92	1 … 255	-	-	read value × 10 = number of cycles
Total cycle counter	93	1 … 255	-	-	read value × 10 = number of cycles
Factory settings	99	1 2	1	1 – Default parameters 2 – Parameters other than default	1 – Default parameters 2 – Parameters other than default
Autoexclusion	100	1 2	1	2 – Autoexclusion	-

COMMAND CLASSES

Command Classes	Role	
	Support	Control
Command Class Z-Wave+ Info v2	ok	
Command Class Version v2	ok	
Command Class Manufacturer Specific v2	ok	
Command Class Device Reset Locally v1	ok	
Command Class Association v2	ok	
Command Class Association Group Info v1	ok	
Command Class Powerlevel v1	ok	
Command Class Switch Binary v1	ok	
Command Class Switch Multilevel v3	ok	ok
Command Class Switch All v1	ok	
Command Class Configuration v1	ok	
Command Class Node Naming v1	ok	

MANUFACTURER SPECIFIC REPORT

Parameter	Value
Manufacturer ID	0x0085
Product Type ID	0x0007
Product ID	0x0011



FAKRO®

BG	Гаранционни условия на производителя	**HU**	A gyártó garanciális feltételei
CZ	Záruční podmínky výrobce	**IT**	Condizioni di garanzia del produttore
DE/AT/ BE/LU	Garantiebedingungen des Herstellers	**LT**	Gamintojo garantijos sąlygos
DK	Producentens garantibetingelser	**LV**	Ražotāja garantijas noteikumi
EE	Tootja garantiitingimused	**NL/BE**	Garantievoorwaarden van de fabrikant
ES	Condiciones de garantía del fabricante	**PL**	Warunki gwarancji producenta
FI	Valmistajan takuuehdot	**PT**	Condições de garantia do fabricante
FR/LU/ BE	Conditions de garantie du fabricant	**RO**	Condițiile de garanție ale producătorului
GB/IE/ MT	Manufacturer's Warranty Terms and Conditions	**SE**	Tillverkarens garantivillkor
GR/CY	Όροι εγγύησης κατασκευαστή	**SI**	Garancijski pogoji proizvajalca
HR	Jamstveni uvjeti proizvođača	**SK**	Záručné podmienky výrobcu

https://qr.fakro.com/8sQtw/warranty