

en

Swing Gate Operator Installation Manual*

fr

Manuel d'installation de l'opérateur de porte battante

nl

Installatiehandleiding draaihekaandrijving

de

Installationshandbuch für Drehtorantriebe

pl

Instrukcja instalacji operatora bramy skrzydłowej

cs

Instalační manuál pro obsluhu křídlové brány

sk

Inštačný manuál k pohonu křídlovej brány

sl

Priročnik za namestitev upravljalnika krilnih vrat

hu

Swing kapu Üzemeltető Installation Manual

* For GB (UK, NI) specific information on national regulations and requirements see English part of the manual.

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NOTE:The original installation and operating instructions were compiled in English. Any other available language is a translation of the original English version.

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1. SAFETY INSTRUCTIONS AND INTENDED USE

About this Manual – Original Manual

These instructions are the original operating instructions according the machinery directive 2006/42 EC. The instruction manual must be read carefully to understand important product information. Pay attention to the safety and warning notices. Keep the manual in safe place for future reference and to make it available to all persons for inspection, service, maintenance and repair. After installation pass the complete documentation to the responsible person/owner.

Qualification of a competent installer

Only correct installation and maintenance by a competent installer (specialist) / competent company, in accordance with the instructions, must understand and ensure the safe and intended function of the installation. Specialist is, who on the basis of their technical training and experience, has sufficient knowledge in the field of powered gates and moreover is familiar with relevant state occupational safety regulations and generally accepted rules of technology in such an extent that he is also able to assess the safe working condition of powered gates according to EN 13241, 12604, 12453 (EN12635)

The installer must understand the following:

Before installing the drive, check that the driven part is in good mechanical condition, opens and closes properly and correctly balanced where applicable




Before first use and at least annually a specialist must inspect powered gate regarding their safe condition. After installation, the installer must ensure that the mechanism is properly adjusted and that the protection system and any manual release function correctly (EU: EN 13241, EN12604, EN 12453, EN 12635; GB (UK, NI) BS EN 13241, BS EN12604, BS EN 12453, BS EN12635). A regular maintenance, inspection must be carried out according to the standards. The installer must instruct other users on the safe operation of the drive system.

After successful installation of the drive system, the responsible installer, in accordance with the EU: Machinery Directive 2006/42/EC; GB (UK, NI): Supply of Machinery (Safety) Regulations 2008 SI 2008 No. 1597, must issue the EU: CE / GB (UK,NI): UK declaration of conformity for the gate system. The EU: CE / GB (UK,NI): UKCA mark label must be attached to the gate system. This is also obligatory in the process of retrofitting on a manually operated gate. Further, a handover pack and an inspection book must be completed.

Please read the operating instructions and especially the precautions. The following symbols are placed in front of instructions to avoid personal injury or damage to property. Read these instructions carefully.

Warnings Symbols

The general warning symbol indicates a danger that can lead to injuries or death. In the text section, the general warning symbols are used as described below.

DANGER Symbol	WARNING Symbol	CAUTION Symbol	ATTENTION Symbol
 DANGER	 WARNING	 CAUTION	ATTENTION
Indicates a danger that leads directly to death or serious injuries.	Indicates a danger that can lead to death or serious injuries.	Indicates a danger that can lead to damage or destruction of the product.	Indicates a danger that can lead to damage or destruction of the product.

Intended use

The swing gate operator is exclusively designed and tested for the operation of smooth-running swing gates in the residential, non-commercial sector.

Specification for gates are defined under mechanical requirements according EU: EN12604 / GB (UK, NI): BS EN 12604.

The maximum permissible gate size and the maximum weight must not be exceeded. The gate must open and close smoothly by hand. Use the operator on gates which comply with the applicable standards and guidelines. Regional conditions of wind loads must be taken into account when using door or gate panels EU: EN13241 / GB (UK, NI): BS EN 13241. Observe the manufacturer's specifications regarding the combination of door and operator. Possible hazards within the meaning of EU: EN13241 / GB (UK, NI): BS EN 13241 are to be avoided by designing and installing the door/gate according to the relevant instructions. This gate mechanism must be installed and operated in accordance with the appropriate safety rules.

Improper use

It is not intended for continuous operation and use in a commercial application.

The construction of the drive system is not designed for the operation of gates outside of manufacturers specification.

It is not permitted on gates that travel with incline/decline.

Any improper use of the drive system could increase the risk of accidents. The manufacturer assumes no liability for such usage. With this drive, automated gates must comply with the current, valid international and country-specific/local standards, guidelines and regulations (EU: EN 13241, EN12604, EN 12453; GB (UK, NI) BS EN 13241, BS EN12604, BS EN 12453).

Only LiftMaster and approved accessories may be connected to the drive. Incorrect installation and/or failure to comply with the following instructions may result in serious personal injury or damage to property.

Gate systems located in public areas and have only force limitation, can only be operated under full supervision.

Additional safety devices should be considered in accordance with EU: EN 12453; GB (UK, NI) BS EN 12453.

1. SAFETY INSTRUCTIONS AND INTENDED USE

During operation, the gate should not under any circumstances obstruct public path ways and roads (public area).

When using tools and small parts to install or carry out repair work on a gate exercise caution and do not wear rings, watches or loose clothing.

To avoid serious personal injury due to entrapments, remove any locking device fitted to the gate in order to prevent damage to the gate.

Installation and wiring must be in compliance with your local building and electrical installation regulations. Power cables must only be connected to a properly earthed supply.

Disconnect electric power to the system before installation, maintenance, repairs or removing covers. A disconnecting device must be provided to the mains power supply (permanently-wired installation) to guarantee all-pole disconnection (isolating switch or by a separate fuse). The repairs and electrical installations may be performed only by an authorised electrician. Emergency Stop Button must be installed for emergency case based on the risk assessment.

Ensure that entrapment between the driven part and the surrounding fixed parts due to the opening movement of the driven part is avoided by respecting the given safety distances in accordance with the EU: EN 13241, EN12604, EN 12453, EN 12635; GB (UK, NI) BS EN 13241, BS EN12604, BS EN 12453, BS EN12635 and/or with safety devices (e.g. safety edge).

Testing of the safety function of the drive system is recommended to be carried out at least once a month. Refer also to manufacturers instruction of the gate system components.

After the installation a final test of the full function of the system and the of the safety devices must be made and all users must be instructed in the function and operation of the swing gate operator.

Gate systems must meet the force limitation according EU: EN 12453, EN 60335-2-103; GB (UK, NI) BS EN 12453, BS EN 60335-2-103.

Additional safety device (safety edge,.) must be considered in accordance to the standard by changes to the system.

It is important to make sure that the gate always runs smoothly. Gates which stick or jam must be repaired immediately. Employ a qualified technician to repair the gate, never attempt to repair it yourself. This device is not intended for use by persons (including children) with restricted physical, sensory or mental abilities or lack of experience or knowledge, unless they are supervised by a person responsible for their safety or have received instruction in how to use the device. If necessary, control equipment MUST be mounted within sight of the gate and out of reach of children. Children should be supervised to ensure that they do not play with the device. Do not allow children to operate push button(s) or remote(s). Misuse of the gate operator system can result in serious injury.

The warning signs should be placed in clearly visible locations.

The gate opener should ONLY be used if the user can see the entire gate area and is assured that it is free of obstacles and the gate operator is set correctly. No one may pass through the gate area while it is moving. Children must not be allowed to play in the vicinity of the gate.

The full protection against potential crushing or entrapment must work immediately when the drive arms are installed.

There may be existing hazards on mechanical, electrical installation or the closing edges of the gate by crushing, impact points:

- Structural failure, leaf, hinges, fixings, travel stops, wind load
- Crush, hinge area, under the gate, safety distance on fixed object
- Electrical failure (Control – faults in safety systems)
- Impact, swept area, hold to run, force limitation, presence detection

Appropriate measures must be taken to ensure safe operation of the gate system according the standards.

Never start up a damaged drive.

Use the manual release only to disengage the drive and – if possible – ONLY when is gate closed. Operation of the emergency manual release can lead to uncontrolled movements of the gate. The Timer-to-Close (TTC) feature, the myQ Smartphone Control app, are examples of unattended operation of the gate.

Any device or feature that allows the gate to close without being in the line of sight of the gate is considered as unattended open/close.

The Timer-to-Close (TTC) feature, the myQ Smartphone Control, and any other myQ devices can ONLY be activated when Liftmasters photo cells are installed (TTC works only in close direction). The gate shall only be operated in the direct sight line to the gate.

IMPORTANT INFORMATION!

- This procedure is also required on private installations (new or retrofitted to a manually operated gate).
This installation and operating manual must be retained by the user.
- The manufacturer accepts no liability/warranty claims resulting from use other than intended use and after the warranty expires.
- The legal remedy is the sole responsibility for all associated rights.

NOTE: Observe the installation and operating manual.

- Always monitor the function of the system and rectify the cause immediately in the event of a malfunction.
- Carry out an annual inspection of the system. Call a specialist.
- Safety distances must be respected between the gate leaf and the environment in accordance with related standards.
- The operator can be installed Only on stable and rigid gate leaves. Gate leaves must not bend or twist when opening and closing.
- Assure that the hinges of the gate leaf are installed and working correctly and not creating any obstacles.
- Installation of two operators on same door leaf is strictly prohibited.

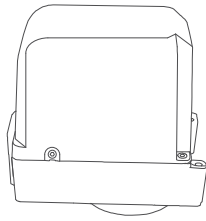


2. DELIVERY SCOPE

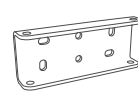
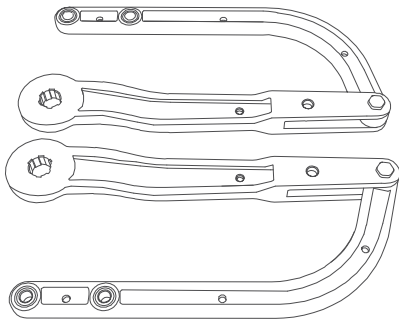
AA250EVK



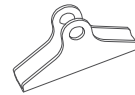
Primary unit with Control Board



Secondary unit



Post Mounting Bracket (2x)



Gate Mounting Bracket (2x)



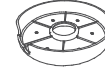
Circlip (2x)



Circlip pin (2x)



Screw and nut (4x)



Cover (2x)



Screw and Washer (2x)



Strain relief
4 x M16
2 x M20



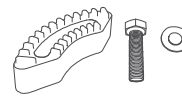
Grommets (6x)



Remote Control (2x)



Release Key (4x)

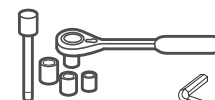
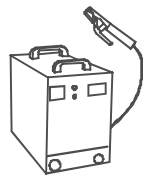
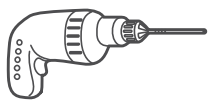


Hardstops (4x)
Screws + Washers (4x)



Installation Manual

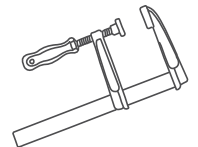
3. TOOLS NEEDED



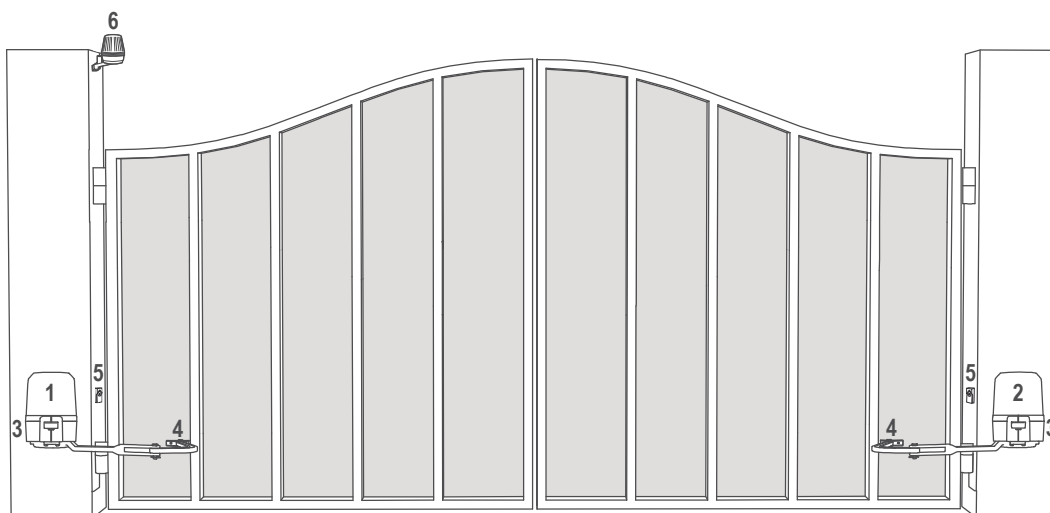
13, 14 mm



6 mm



4. OVERVIEW OF GATE OPERATOR



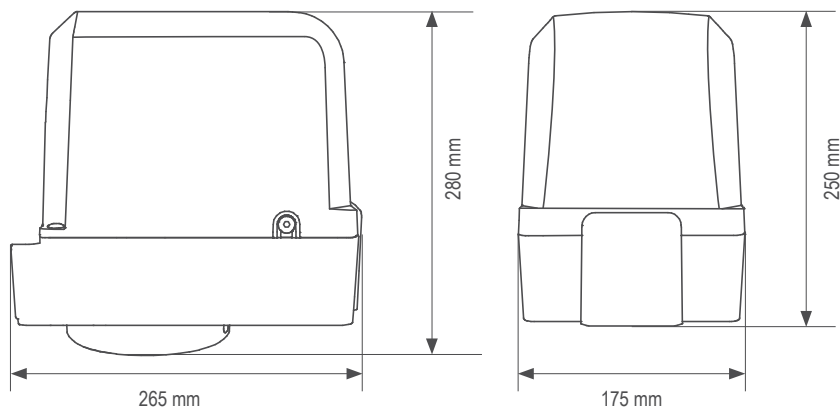
1. Motor 1 with control board
2. Motor 2
3. Post bracket (concealed)
4. Gate bracket
5. Infrared photocells
6. Flashing lamp

5. MECHANICAL INSTALLATION

Herewith you start mechanical installation of the gate operator.

5.1 Dimensions of Gate and Operator

AA250EVK



AA250EVK	
1.5 m	250 kg
2.0 m	200 kg
2.5 m	150 kg

Example installation

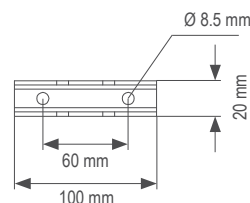
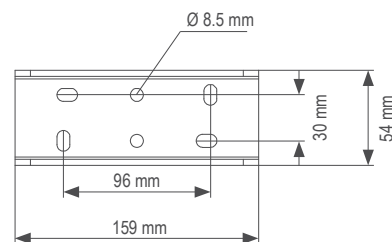
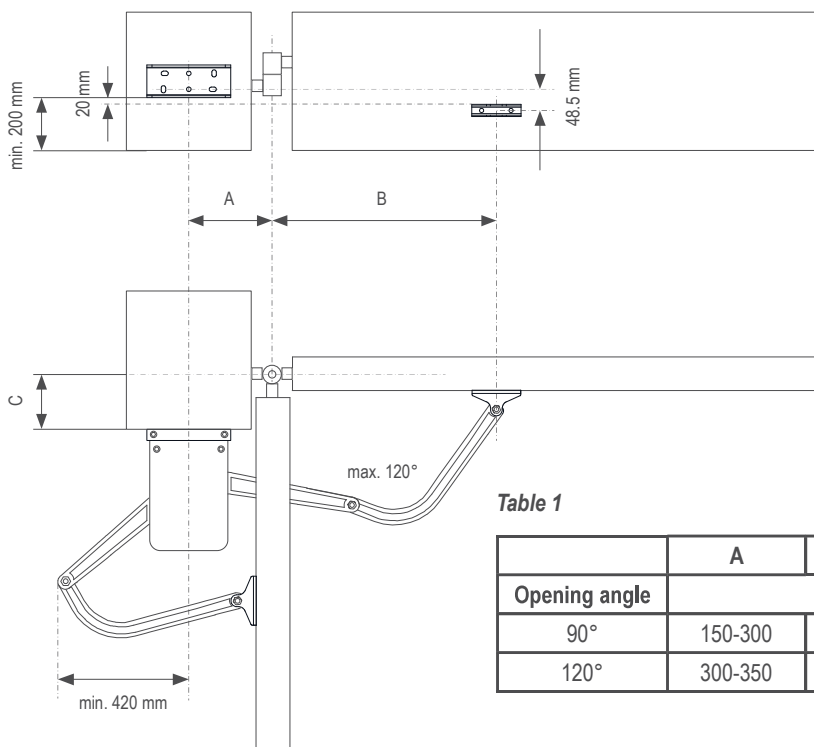


Table 1

	A	B	C
Opening angle	mm		
90°	150-300	390-540	0-300
120°	300-350	300-350	0-25

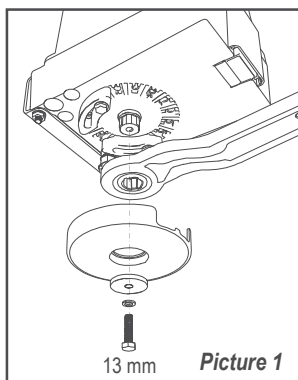
5.2 Determine the Position of the Post Bracket

1. Determine the A, B and C dimensions based on the opening angle provided in Table 1 to confirm the position where the post bracket will be mounted.

NOTE: All crushing points must be secured by an entrapment protection according to EU: EN 12453, EN 60335-2-103; GB (UK, NI): BS EN 12453, BS EN 60335-2-103.

Operator Arm Mounting

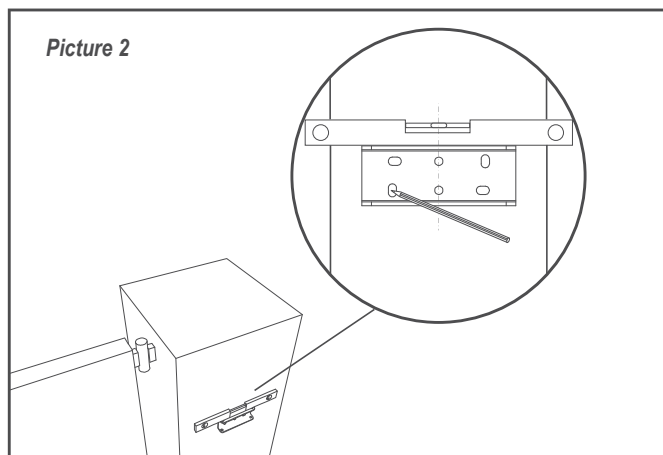
1. Attach the motor arm to the center of the opener from the underside.
2. Secure the caps with the screw and washer.



5. MECHANICAL INSTALLATION

5.3 Post Bracket Installation

1. Using the post bracket as a reference, mark and drill the holes for the post bracket.
2. Attach the post bracket using the correct fastening material based on existing installation (building / material substance). Please consult the gate manufacturer.
3. The slots on the post bracket allow for alignment. When the post bracket is level tighten the nuts.



NOTE: For brick or concrete posts please use correct dowels and screws. Please maintain correct distance to the post edges.
For metal posts please consider the post thickness and weld or bolt the bracket directly to post.
For timber posts please use correct screws and if required use reinforcement plates.
Caution: The fastened brackets must not loosen after installation and during operation.

5.4 Operator Mounting and Travel Distance Adjustment

1. Align the holes on the operator to the post bracket holes and connect using the screws and nuts (see picture 3.a).
2. Connect the arm to the shaft of the motor unit (see picture 3.b). Do not mount plastic protection cover yet, if you plan to install operator hard stops.
3. Release the operator clutch with the release key (see picture 4 on page 7).
4. Bring gate leaf to the closed position.

NOTE: The system must operate with external gate or operator hard stops in both directions.

5.4.1 Installation with external gate hard stops: (gate hard stops already installed)

- a. Position the gate bracket in the desired full closed position as shown in the picture 3.c. Temporarily secure it to the gate leaf and connect with operator arm considering dimensions A, B and C from Table 1.
- b. Manually open and close the gate to the required positions. Ensure the operator arm does not bind and gate is moving smoothly.
- c. Make permanent connection of the gate bracket at chosen correct position.

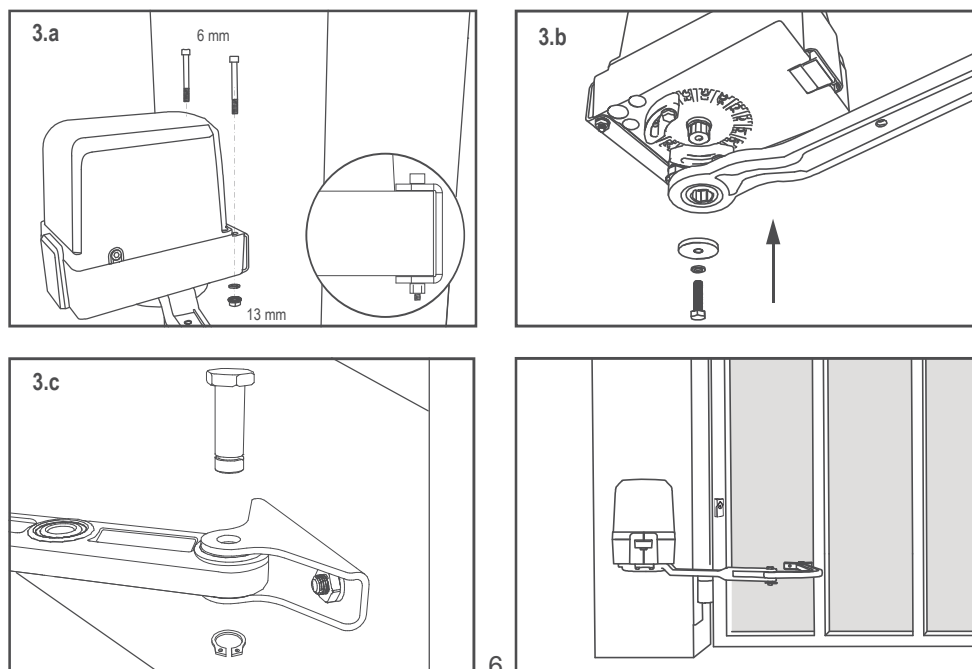
5.4.2 Installation with operator hard stops: (no gate hard stops installed)

- a. Position the gate bracket in the desired full closed position as shown in the picture 3.c. Temporarily secure it to the gate leaf (do not make permanent connection to gate leaf yet to enable adjustments) and connect with operator arm considering dimensions A, B and C from Table 1.
- b. Manually open and close the gate to the required positions. Ensure the operator arm does not bind and gate is moving smoothly.
- c. Fix the operator hard stop for "close" position as close as possible to the arm (see picture 3.d).
Hold the gate leaf in the desired "closed" position and adjust position of the gate bracket, so that the arm pushes against hard stop in "close" position (see pictures 3.e and 3.f).
- d. Make permanent connection of the gate bracket at chosen correct position.
- e. Open the gate to the required "open" position and fix the operator hard stop for "open" position as close as possible to the arm (see pictures 3.g and 3.h).
- f. Mount the protection cover at the operator bottom (see picture 3.i).

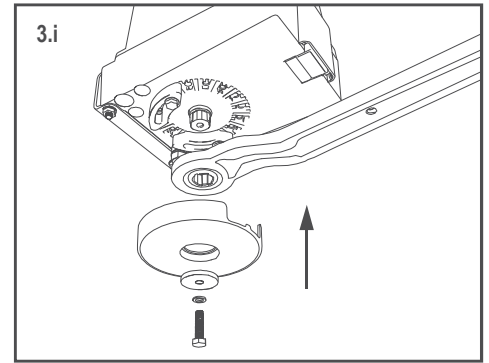
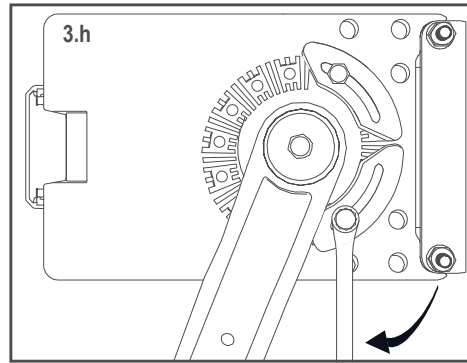
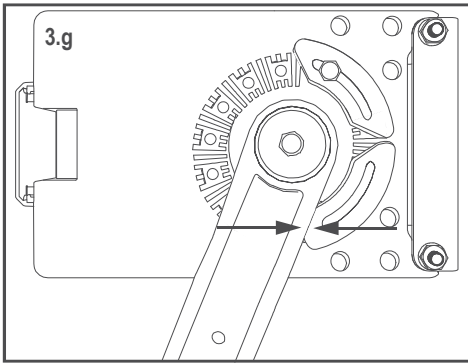
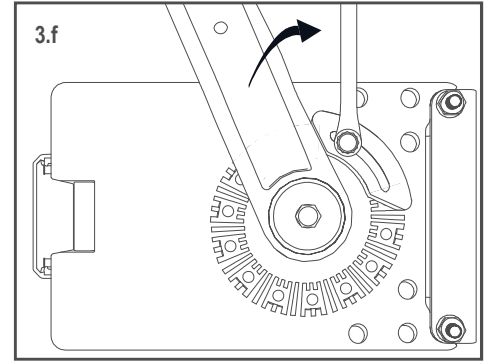
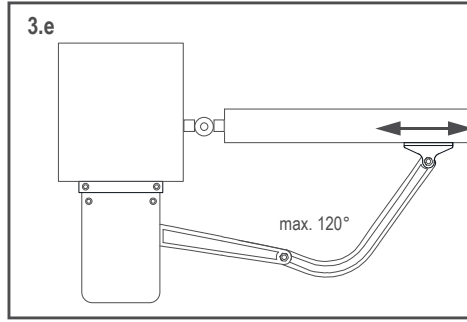
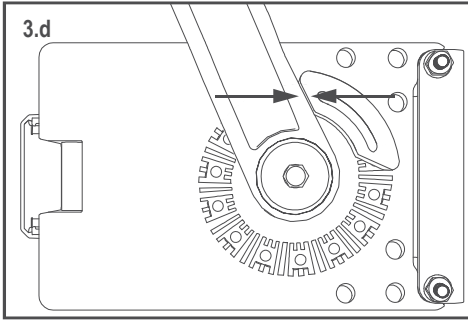
4.3 A combination of operator and gate hard stops is allowed. Please use the respective set up procedures as described above.

5. Repeat the procedure for the unit on the opposite side.

Picture 3



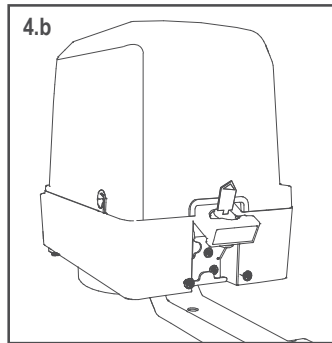
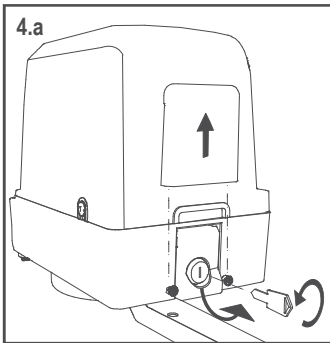
INSTALLATION



5.5 Emergency Release Mechanism

To disengage the release mechanism remove the plastic cover, enter the key and turn it 90°. Pull the clutch up (see picture 4). To re-engage the release mechanism, push the clutch down and turn the key 90°.

Picture 4



INSTALLATION

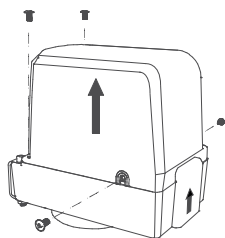
5.6 Control Board Installation and Motor Wiring

The control board is already pre-installed in the Primary unit and pre-wired to the terminals of Motor 1.

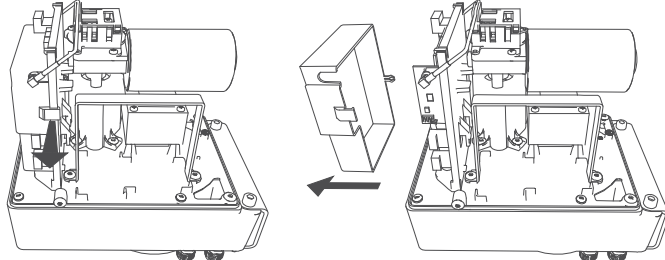
To gain access to the control board in the Primary unit release the 2 screws on the sides of the cover and 2 screws on the back of the Primary unit (see picture 5).

The terminals for wiring accessories are directly accessible. To get access to the programming buttons remove the transparent plastic cover and place it back once programming is finished (see picture 6). Remove the cover of the Secondary unit same way as with Primary unit to gain access to the Motor wiring terminal (see picture 7).

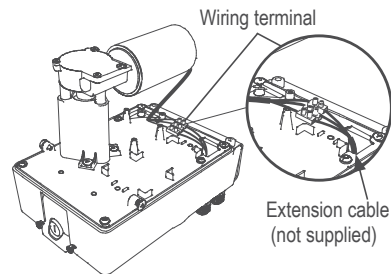
Picture 5 Removing Cover



Picture 6 Primary unit



Picture 7 Secondary unit



Per default settings, the Primary unit is considered installed on the left (when looking from inside out), and the Secondary unit on the right. In case the Primary unit is installed on the right, and the Secondary unit on the left, change the settings of functions «d1» and «d2».

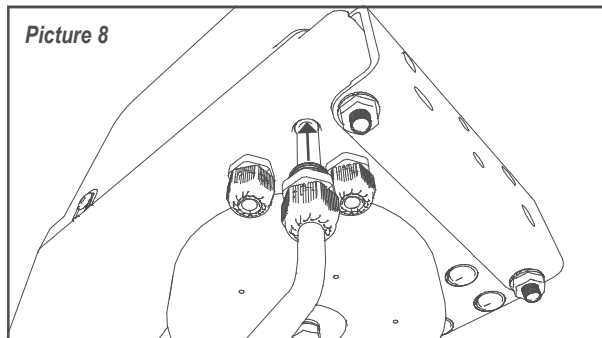
Motor 1 Connection

NOTE: The operator wired to the MOTOR 1 terminal will always open first and close last. Consider this for Basic and Advanced Settings (see Programming section). Primary unit is already pre-wired to MOTOR 1 terminals. No extra steps required for Motor 1 wiring.

Motor 2 Connection

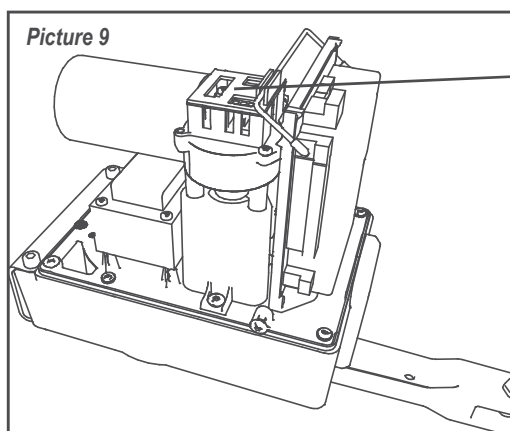
NOTE: The operator wired to the MOTOR 2 terminal will always open last and close first. Consider this for Basic and Advanced Settings (see Programming section).

1. Connect the extension cable (not provided) to the wiring terminals of the Secondary unit (see picture 7). Note the cable colors of the Secondary motor to match them on the control board wiring terminal for MOTOR 2.
2. Feed the Secondary motor extension cable through one of the cable glands at the bottom of the Primary unit (see picture 8). Ensure to use the side of the motor where the arm cannot cut the cables during opening or closing movement.
3. Connect Secondary motor cables to the MOTOR 2 terminals as follows: red cable to RED terminal, green cable to GRN terminal, white cable to WHT terminal on control board.



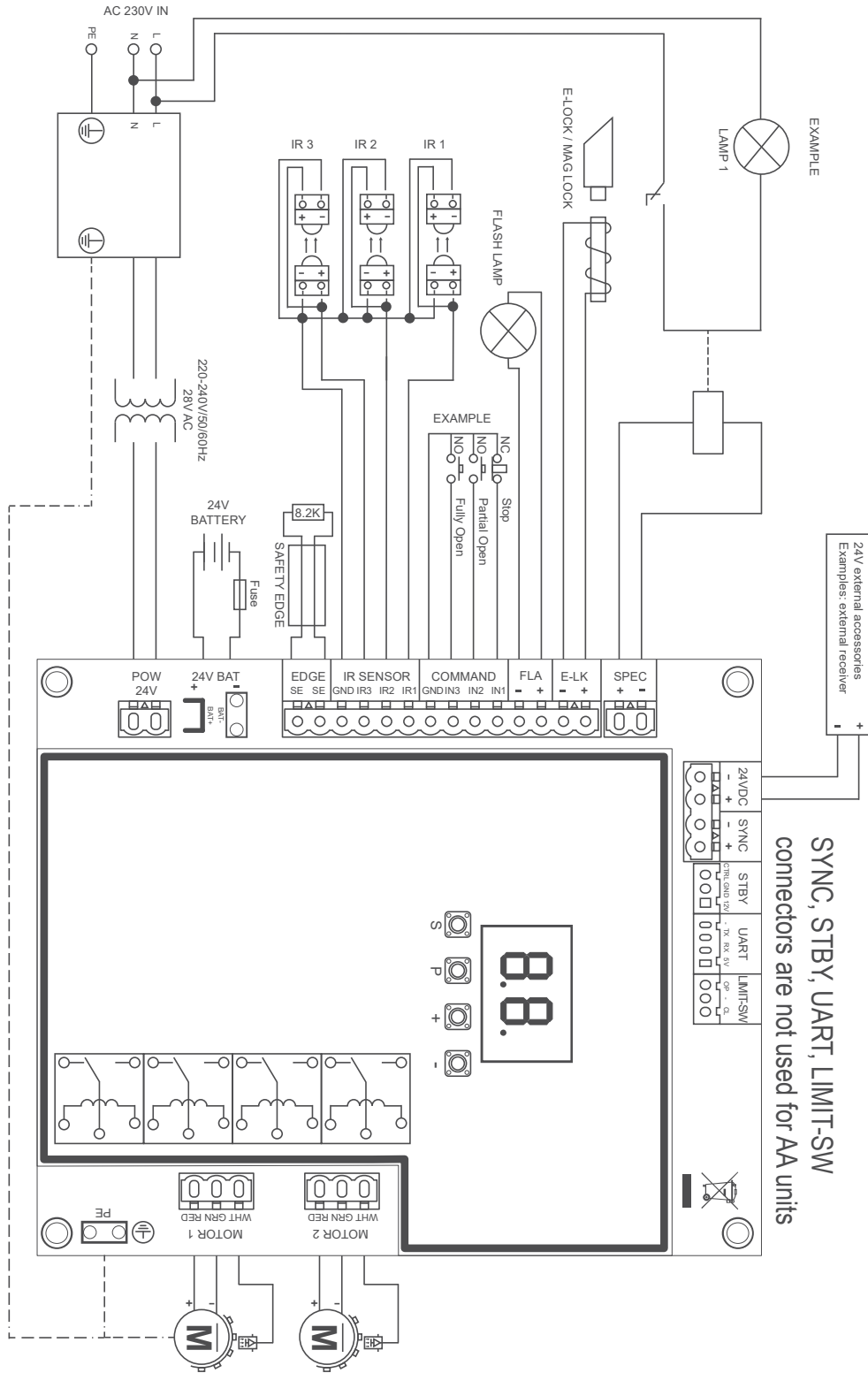
5.7 Power Wiring

Mains power wiring must be done by a certified electrician specialist.

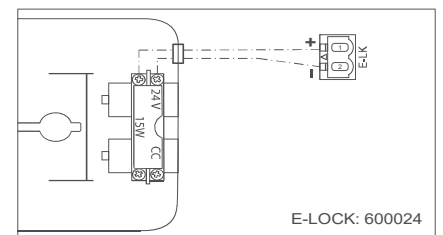
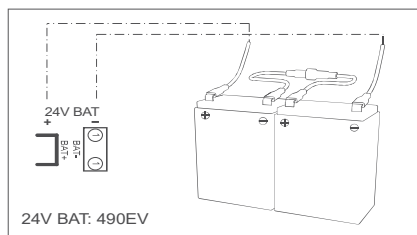
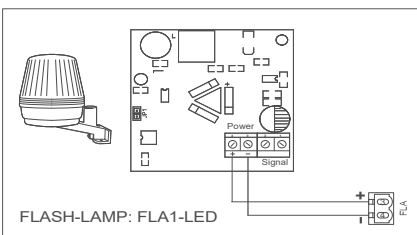


Congratulations! Herewith the mechanical installation of your gate operator is finished. Please proceed with Programming and Basic Settings to be able to start operation.

6. WIRING DIAGRAM



SYNC, STBY, UART, LIMIT-SW connectors are not used for AA units



7. PROGRAMMING

7.1 Display, Programming Buttons and Function Setting

Programming buttons function (4 buttons):

Button	Function
S	program / delete remote controls and specific functions
P	enter programming mode, select function and save
+/-	Navigate through the menu and change the value on display

Function and programmed values are shown on LED display.

Function setting - programming mode

LED display shows following values after control board is powered:

--	Control board is pre-programmed to relevant application (see below under "Application" and "Stand-by Mode" for status description).
E0	"E0", in case the control board has not been programmed yet or reset by function "Factory Default". From this status, an Input or transmitter command will be always ignored.

Herewith you start programming of your gate operator.

7.2 General Programming Overview

The programming is divided in 2 sections:

1. Basic Settings (Page 11)
2. Advanced Settings (Page 14)

After Basic Settings are done, following parameters will be learned automatically during Learning phase:

1. Travel length from **FULL CLOSED** to **FULL OPEN** position.
2. Opening and closing force for each motor.

NOTE:

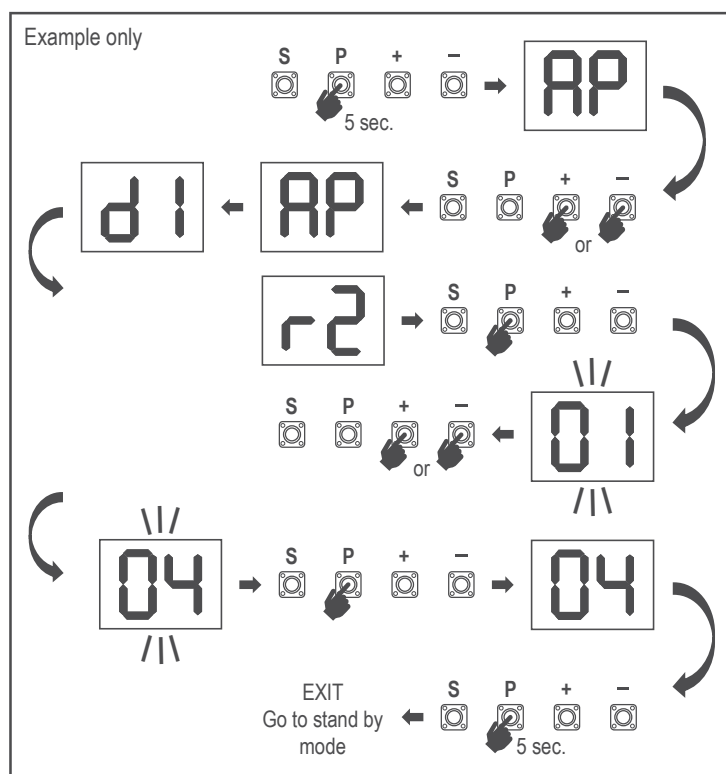
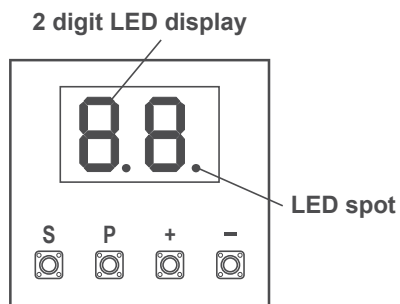
- Basic Settings and Learning phase must be completed to enable operation.
- After the Learning phase and Programming are finished the operator will work as per default settings.
- Advanced Settings cannot be accessed if Basic Settings and Learning phase are not completed.
- **Before making the programming ensure that the relevant safety devices are connected.**

General setup:

1. Press and hold "P" button for 5 seconds to enter the menu. "AP" on the display indicates the first available function in menu.
2. Use "+" and "-" buttons to navigate between the functions.
3. Press "P" button to select the required function.
4. The default setting or previously programmed value will appear. This will be indicated by flashing of value on display.
5. Use "+" or "-" buttons to select the required value. Press "P" button to confirm selection.
6. The programmed function is shown on display.
7. To change the setting of another function, repeat the sequence from the points #2 to #6
8. To exit to the Function menu, press "P" button for 5 seconds, then the board will go in Stand-by mode.

If "P" button is not pressed to confirm new value setting, new settings will be saved after 3 minutes and programming will exit menu and return into Stand-by mode.

NOTE: To operate the gate or execute any command, setting menu must be finished by pressing the "P" button for 5 seconds, or by selecting FE Function, or waiting 3 minutes for automatic exit and return into Stand-by mode.



7. PROGRAMMING

7.3 Wing Movement Direction

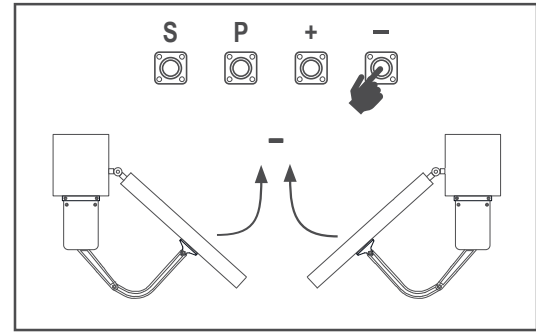
Before programming, move the gate manually in the middle position and re-engage release mechanism (see page 7).

Press and hold the “-” button on the control board and ensure that the motors are moving in **CLOSE** direction. If correct, immediately let go of the “-” button and gate stops. If motors are moving in **OPEN** direction, go to the functions “d1” and “d2” and change the direction settings.

Once **CLOSE** direction is set correctly, leave the gate in the middle position. The operator is ready for the Learning phase.

Note: gate can be moved with “+” and “-” buttons prior to final settings if required. Press and hold the “+” button on the control board to move the gate into **OPEN** position. When button is released operator stops.

Press and hold the “-” button on the control board to move the gate into **CLOSE** position. When button is released operator stops.



7.4 Basic Settings

Basic Settings Overview

LED		Function
		Basic Settings (mandatory)
AP	AP	Application
d1	d1	Direction Motor 1
d2	d2	Direction Motor 2
LL	LL	Limit Learning Phase

7.4.1 Application Settings

Application function shown on display.

This function is already pre-set at factory at value 05.



05	Swing gate, two motors for AA250 application (default)
-----------	--

More settings available on demand:

00	No application selected
04	Swing gate, one motor for AA250 application

Values 01-03, 06, 07 are not suitable for AA250 application and shall not be chosen.

7.4.2 Direction Motor 1 Settings



Direction Motor 1 function shown on display

Defines movement direction of the Motor 1.

01	Motor 1 is moving in closing direction, when installed on the right-hand side .
02	Motor 1 is moving in closing direction, when installed on the left-hand side (default)

7.4.3 Direction Motor 2 Settings

Direction Motor 2 function shown on display.

Defines movement direction of the Motor 2. Not available for “one motor” application.



01	Motor 2 is moving in closing direction, when installed on the right-hand side (default)
02	Motor 2 is moving in closing direction, when installed on the left-hand side

7.4.4 Limit Learning



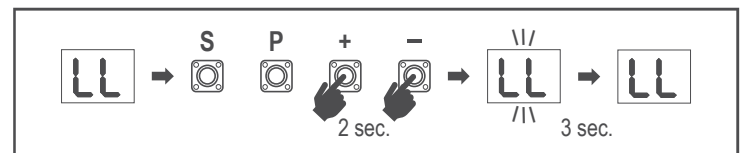
Before starting a Learning phase ensure that:

1. Other Basic Settings are completed
2. Internal / external hard stops are installed (for swing gates)
3. First movement will be in **CLOSE** direction.

Available Learning methods:

Standard Learning Mode (Automatic)

1. Press and hold “+” and “-” buttons for 2 seconds.
2. Automatic learning process starts. LL will flash on the display during complete process.
3. Wing 2 moves in **CLOSE** direction until the hard stop is reached, and stops.
4. Wing 1 moves in **CLOSE** direction until the hard stop is reached, and stops for 2 seconds. Then Wing 1 starts in **OPEN** direction until the hard stop is reached.
5. Wing 2 moves in **OPEN** direction until hard stop is reached, stops for 2 seconds and then moves in **CLOSE** direction until hard stop is reached, and stops.
6. Wing 1 moves in **CLOSE** direction until hard stop is reached, and stops.
7. Standard Learning phase is finished, LL will appear on display and board will return in stand-by mode after 3 seconds.



NOTE: In single motor application, “Wing 2” actions are not used.

Following settings are done during Standard Learning Mode:

1. Travel length from **FULL CLOSED** to **FULL OPEN** position.
2. Opening and closing force for each motor.
3. 15% of total travel in both directions is assigned for Soft Stop.
4. Wing delay in opening and closing position is 2 seconds. Shall you need to change the delay please go to Advanced Settings: Delay Motor 2 (d0) and Delay Motor 1 (dC).

7. PROGRAMMING

Advanced Learning Mode (manual setting of Soft Stop position)

1. Press and hold “+” and “-” buttons for 2 seconds.
2. Automatic learning starts. LL will flash on the display during complete process.
3. Wing 2 moves in **CLOSE** direction until hard stop is reached, and stops.
4. Wing 1 moves in **CLOSE** direction until hard stop is reached, and stops for 2 seconds.
5. Wing 1 starts in **OPEN** direction at default speed.
6. To define start of the Soft Stop for Wing 1 in **OPEN** direction press “P” button at required start point. Wing 1 will continue opening until hard stop is reached, and stops.
7. Wing 2 moves in **OPEN** direction at default speed.
8. To define start of the Soft Stop for Wing 2 in **OPEN** direction press “P” button at required start point. Wing 2 will continue opening until hard stop is reached, stops for 2 seconds and then moves in **CLOSE** direction at default speed.
9. To define start of the Soft Stop for Wing 2 in **CLOSE** direction press “P” button at required start point. Wing 2 will continue closing until hard stop is reached, and stops.
10. Wing 1 moves in **CLOSE** direction at default speed.
11. To define start of the Soft Stop for Wing 1 in **CLOSE** direction press “P” button at required start point. Wing 1 will continue closing until hard stop is reached, and stops.
12. Advanced Learning phase is finished. LL will appear on display and board will return in stand-by mode after 3 seconds.

NOTE: In single motor application, “Wing 2” actions are not used.

Following settings are programmed during Advanced Learning mode:

1. Travel length from **FULL CLOSED** to **FULL OPEN** position.
2. Opening and closing force for each motor.
3. Starting positions of the Soft Stops.
4. Wing delay in opening and closing position is 2 seconds. Shall you need to change the delay please go to Advanced Settings: Delay Motor 2 (d0) and Delay Motor 1 (dC).

NOTE: To stop Learning phase press “S” button. The Learning process will be interrupted, “LE” will flash on LED display. After 5 seconds “LL” will appear on display indicating readiness to start Learning phase again. If Learning process was not completed, it needs to be re-done.

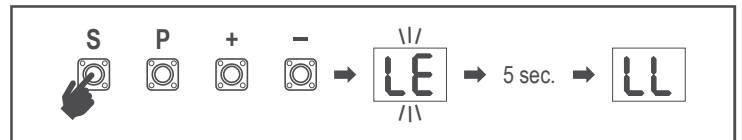
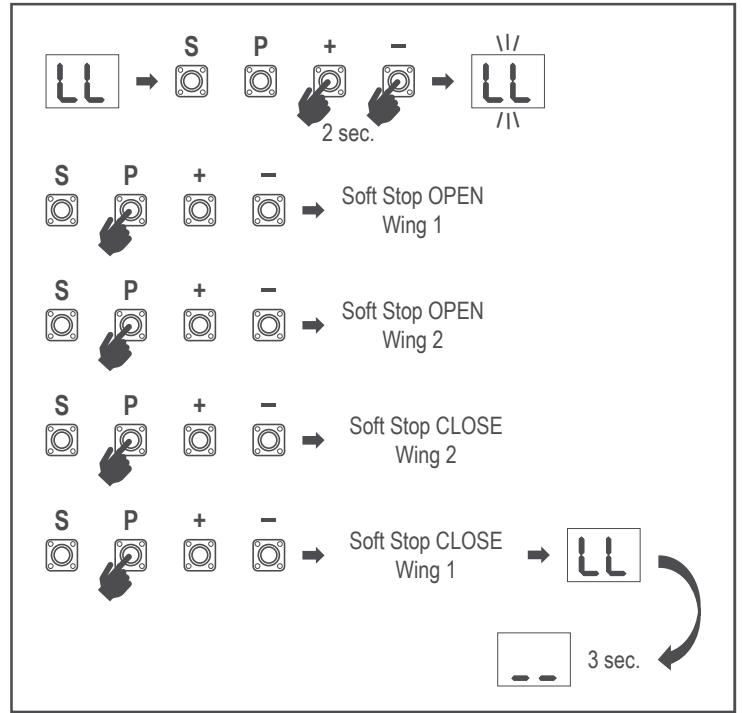
ATTENTION: Learning phase must be completed to enable operation.

7.5 Stand-by Mode

After the control board is powered on and programming is finished, the LED display lights completely for 2 seconds and goes into the stand-by mode. During Stand-by mode the LED display shows current gate status.

	Two motors (default)	One motor
Motor is opening, upper section of the display flashes.		
Motor stops at the opening position, upper section of the display is on.		
Motor is closing, lower section of the display flashes.		
Motor stops at the closed position, lower section of the display is on.		
Motor stops in the middle, middle of the display is on.		

Herewith the Basic Settings are completed. You can leave Programming and operate your gate or proceed with Advanced Settings.



7. PROGRAMMING

7.6 Programming and Erasing of Remote Controls, Radio Accessories and myQ Devices

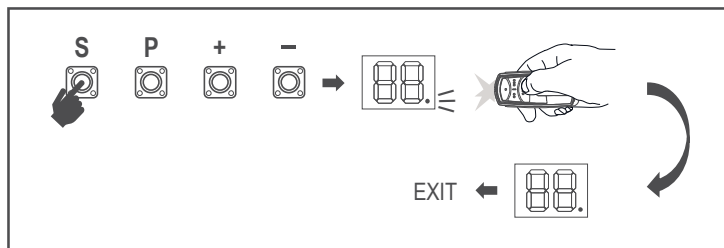
Program remote control devices (transmitters and wireless wall controls):

NOTE: the remote controls delivered with the operator are already factory pre-learned to the operator (top button near the LED) and do not require extra programming.

1. Press and release "S" button. An LED spot turns ON in the display. The operator will stay in Radio programming mode for 3 minutes. Any radio accessory device can be learned within first 30 seconds. During the remaining 2.5 minutes only myQ devices can be learned.
2. Chose the required button on your transmitter and hold it until the dot in the display turns off.

To program a new remote control repeat the sequence.

To program a wireless keypad, please follow the respective manual of the accessory.



Programming Transmitter in Partial opening

Press and hold "S" and "+" buttons at the same time, until the LED spot starts flashing. Press and hold the desired free button on transmitter to program the Partial Opening Mode.

The LED spot turns off when the programming is finished. If there is a light connected to SPEC contact it will flash once.

Program myQ gateway (828EV):

1. Connect

Connect ethernet cable (1) provided with gateway to router (2). Use the plug valid for your country (not all models). Connect power (3) to the internet gateway (4). When the internet gateway connects to the internet, the green light (5) will stop blinking and will light solid. A connected set of IRs is mandatory for myQ operation.

2. Create an account

Download the free myQ App from App Store or Google Play Store and create an account. If you already have an account, use your username and password.

3. Register the internet gateway

Enter the Serial Number located on the bottom of the internet gateway when prompted.

4. Add myQ devices

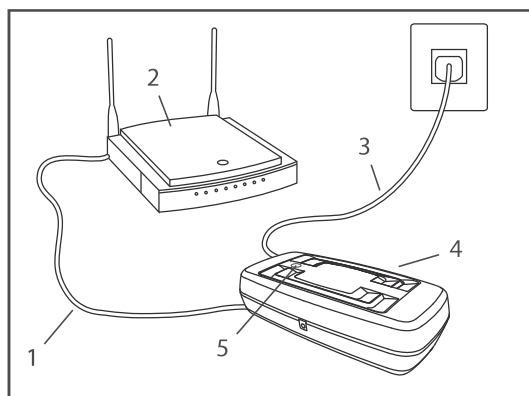
To add your gate operator to the registered gateway follow the instructions on the app. When adding a new myQ capable gate operator press and release "S" button on operator control board. An LED spot turns ON in the control board display.

Note: After you add a device, the blue light on the internet gateway will appear and stay on. Press "S" button on the operator control board to exit the radio programming mode.

5. Test

After having installed and registered correctly you may now test the following features: open or close the gate, request status GATE OPEN or GATE CLOSED.

For more functions see www.liftmaster.eu



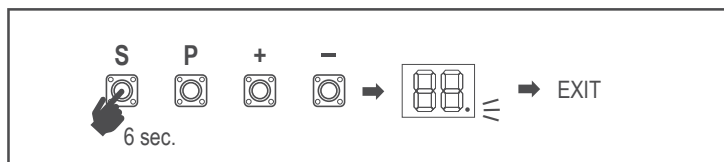
Erase radio control devices (transmitters, wireless wall controls, wireless keypads):

Press and hold "S" button for > 6 seconds. All radio control devices (transmitters, wall controls, keypads) are erased. The LED spot in the display turns OFF. Note: It is not possible to erase radio control devices individually.

Erase myQ devices:

1. Erase remote control devices first as indicated above.
2. Within next 6 seconds press and hold "S" button. An LED spot turns ON in the display.
3. Press and hold "S" button for > 6 seconds. All myQ devices are erased. The LED spot in the display turns OFF.

NOTE: It is not possible to erase myQ devices individually. It is not possible to erase myQ devices only.



7. PROGRAMMING

Herewith you start with Advanced Settings.

7.7 Advanced Settings

LED		Function
	tr	Transmitter
	r1	IR1 photocell
	r2	IR2 photocell
	r3	IR3 photocell
	i1	Input 1 command
	i2	Input 2 command
	i3	Input 3 command
	Pd	Partial Opening Motor 1 only
	d0	Delay Motor 2 in OPEN
	dC	Delay Motor 1 in CLOSE
	tC	Timer To Close (TTC)
	rt	Reversal time after impact
	EL	E-lock
	rb	Relief Motor 1 for E-lock

LED		Function
	FL	Flashing Light
	PF	Pre-Flashing
	SP	Special contact
	St	START Speed in OPEN and CLOSE
	Cn	Maintenance counter
	PS	Password
	F1	Force Motor 1 in Open (protected by PS)
	F2	Force Motor 1 in Close (protected by PS)
	F3	Force Motor 2 in Open (protected by PS)
	F4	Force Motor 2 in Close (protected by PS)
	S1	Speed Motors in OPEN (protected by PS)
	S2	Speed Motors in CLOSE (protected by PS)
	SF	SOFT-STOP Speed in OPEN and CLOSE (protected by PS)
	Fd	Factory default
	FE	Finish and Exit

7.7.2 Transmitter Settings

Transmitter function defines how Transmitter commands are working.

Note: Under settings "01", "02" and "03", TTC timer will be overridden by a transmitter command and will CLOSE the gate.

Under setting "04", active TTC timer countdown will be re-set to start again by Transmitter command.



	Residential Mode: Open – Close – Open
	Standard Mode: Open – Stop – Close – Stop – Open (Default)
	Automatic with Stop Mode: Open – Stop – Close – Open
	Car Park Mode: Open, to complete Open position. Additional command during the opening will be ignored

7.7.3 Infrared Photocells Settings



IR functions define functioning mode of Infrared Photocells (IR).

IRs will be auto-learned when installed.

Each of the 3 IR sets can be programmed individually.

NOTE: Depending on the chosen settings the Partial Opening inputs or Remote Controls commands will not be executed in both OPEN or CLOSE direction if the IR beam is obstructed. If IRs are removed, the control board power must be turned OFF/ON for two times to unlearn.

For check and maintenance of the photocells see the manual of the photocells.

	IR active on CLOSE movement. If IR beam is obstructed, gate reverses in complete OPEN position (Default).
	IR active on OPEN movement. If IR beam is obstructed gate stops. When obstruction disappears the gate continues to OPEN.
	IR is active on OPEN and CLOSE movement. If IR beam is obstructed on CLOSE movement, gate stops and after the obstruction disappears gate reverses in complete OPEN position. If IR beam is obstructed on OPEN movement, gate stops. When obstruction disappears the gate continues to OPEN.
	IR active on CLOSE movement. If IR beam is obstructed, gate reverses in complete OPEN position. The activated TTC function will be overridden 2 seconds after the beam obstruction is eliminated and will start CLOSE movement not waiting till the end of TTC time end.

7.7.4 Input Settings



Inputs function defines the way Input commands from external accessories are executed. Each of the 3 Inputs can be programmed individually.

NOTE: Under settings "01", "02" and "03", TTC timer will be overridden by an Input command and will CLOSE the gate. Under setting "06", active TTC timer countdown will be re-set to start again by an Input command

7. PROGRAMMING

01	Open – Close – Open
02	Open – Stop – Close – Stop – Open (Default)
03	Open – Stop – Close – Open
04	Partial opening Motor 1 only
05	STOP (NC contact)
06	Open, to complete OPEN position. Additional Open command during the opening will be ignored
07	Close, to complete CLOSE position. Additional Close command during the closing will be ignored
08	Open – Stop – Open - Stop
09	Close – Stop – Close - Stop
10	Open, hold to run
11	Close, hold to run

7.7.5 Partial Opening Motor 1

Pd

Partial opening Motor 1 only gives you the ability to open active leaf to a pre-set value only.

NOTE: Pd command will work starting from Close limit position and during closing movement. If a Pd command is executed from a complete OPEN position, the gate will close.

An Open or transmitter command will always override the Pd command.

01	50% opening travel
02	75% opening travel (default)
03	100% opening travel

1. Press and hold "S" and "+" buttons at the same time, until the LED spot starts flashing.
2. Press and hold the desired free button on transmitter to program the Partial Opening Mode.
3. The LED spot turns off when the programming is finished. If there is a light connected to SPEC contact it will flash once.

7.7.6 Delay Motor 2 in Open Direction

d0

Delay Motor 2 in OPEN direction function defines time delay for Motor 2 in OPEN direction. Not available for single motor application.

Not executed during reversal or after IR beam interruption in both directions.

00	no delay (both wings start opening at the same time)
01	1 second
02	2 seconds (Default)
03	3 seconds
04	4 seconds

7.7.7 Delay Motor 1 in Close Direction

dC

Delay Motor 1 in CLOSE direction function defines time delay for Motor 1 in CLOSE direction. Not available for the single motor application. Not executed during reversal or after IR beam interruption in both directions.

00	no delay (both wings start in the same time)
01	1 second
02	2 seconds (Default)
...	... seconds
20	20 seconds

7.7.8 Timer To Close

tC

Timer to close (TTC) function enables automatic closing of the gate from a complete OPEN position after a pre-set period of time. Minimum one pair of LiftMaster Infrared Photocells (IR) has to be installed to monitor closing movement to enable TTC operation. TTC will not work if IR are protecting opening movement only. TTC will also work with activated partial opening. If TTC function is active, timer is counting down, and the IR beams are interrupted, the TTC timer shall re-start.

00	TTC not active (Default)	05	1 minute
01	10 seconds	06	1.5 minutes
02	20 seconds	07	2 minutes
03	30 seconds	08	3 minutes
04	45 seconds	09	5 minutes

7.7.9 Reversal Time after Impact

rt

Reversal time after impact function defines reversal behaviour after obstacle obstruction during closing or opening movement. This reversal behaviour is valid both for motor force detection and safety edge application.

01	2 seconds reversal and Stop
02	Reversal back up to the end limit position (Default)
03	During Closing movement, upon impact gate reverses up to Open position. During Opening movement, upon impact gate reverses for 2 seconds and stops

7.7.10 E-Lock / Mag-Lock Settings

EL

E-Lock function defines e-lock/mag-lock behaviour. 24VDC – 500mA e-lock or mag-lock can be connected.

00	e-lock/mag-lock not installed (Default)
01	e-lock active for 1 second prior to Motor 1 start in Open direction
02	e-lock active for 2 seconds prior to Motor 1 start in Open direction
03	Magnetic lock, constantly active at gate CLOSED or constantly inactive during OPEN and CLOSE movement, gate OPEN or STOP position. Magnetic lock will be deactivated in Battery Back-up mode.

7. PROGRAMMING

7.7.10a Relief Motor 1 for E-Lock



Relief Motor 1 for e-lock function enables to briefly push Motor 1 in CLOSE direction before engaging e-lock to relieve excess pressure on e-lock. Not available if EL Function is set to "00" or "03" (e-lock not connected / mag- lock connected).

00	deactivated (Default)
01	1 second activated
02	2 seconds activated

7.7.11 Flashing Light Settings



Flashing Light function allows to select which type of Flashing Lamp is connected. 24VDC- max 500 mA Flashing lamp (FLA1-LED) can be connected.

00	no flashing lamp installed (Default)
01	continuous 24V supply - for flashing lamp with own control board (FLA1-LED)
02	interrupted 24V supply - for flashing lamp without own control board

7.7.11a Pre-Flashing



Pre-Flashing function defines time interval of pre-flashing of the flashing lamp prior to gate movement. Function not active if Flashing Lamp (FL) Function is set to "00".

00	no pre-flashing (Default)	03	3 seconds
01	1 second	04	4 seconds
02	2 seconds	05	5 seconds

7.7.15 Password Protected Functions and Setup

7.7.15a Password Setup



Learning Phase must be completed and Password must be set before doing changes for Password protected functions, like Force and Speed. Chose the "PS" function to program password.

NOTE: "00" cannot be used as password. It is only used as a default setting. Functions protected by password can't be accessed if the new password is not set. Password will be required to change protected Functions after the setup.

Set new Password:

1. Choose "PS" function and press "P" button.
2. "00" flashes on display.
3. Use "+" and "-" buttons to set the new password.
4. Press "P" button.
5. New set password value remains on display for 2 seconds. Then display changes to "PS".

Please note your password where it can be found later.

7.7.12 Special Contact Settings



Special Contact Function defines relay activation time. A 24V max 500mA relay can be connected to manage other devices, e.g. courtesy light. The time set here will also control countdown for myQ remote light.

00	no activation (Default)	05	1.5 minutes
01	15 seconds	06	2 minutes
02	30 seconds	07	3 minutes
03	45 seconds	08	4 minutes
04	1 minute	09	5 minutes

7.7.13 Start Speed in Open and Close Directions



Start Speed function allows switching the Soft-Start in OPEN and CLOSE directions ON and OFF.

00	deactivated (Default)
01	Soft Start active: motors will accelerate gradually until they reach standard speed.
02	Hard Start active, motors will start at the regular Speed and for the first second the force sensor will be not considered.

7.7.14 Maintenance Counter



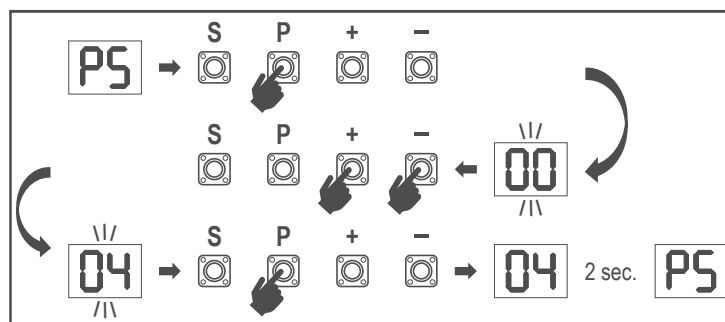
Maintenance Counter function allows to set maintenance interval in cycles. 4 seconds pre-flashing of the Flashing Lamp will be a signal the interval is reached. If PF Function (Pre-Flashing) is active then 4 second pre-flashing will be added to the set time. To reset counter after maintenance is done, it will be enough to program the cycles one more time.

00	no counter (Default) cycles
01	1000 cycles	20	20000 cycles
02	2000 cycles		

ATTENTION

Any changes done to the Password protected functions (Force and Speed) require verification of speed and force according to EU: EN 12453, EN 60335-2-103; GB (UK, NI) BS EN 12453, BS EN 60335-2-103.

00	No password selected (Default)
01 → 02 → → 99	Selection available



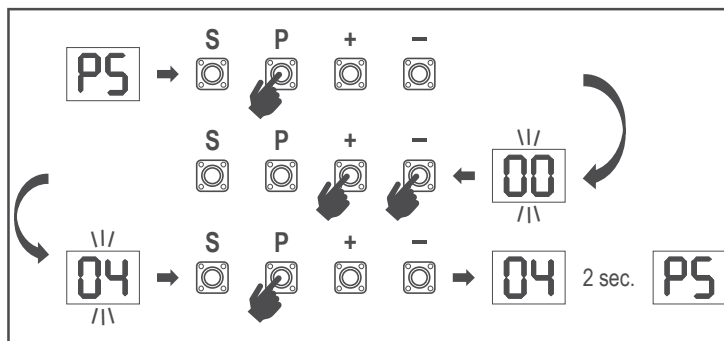
7. PROGRAMMING

7.7.15b Password Use

1. Choose "PS" function and press "P" button.
2. "00" flashes on display.
3. Use "+" and "-" buttons to enter the correct password and press "P" button to confirm.
4. If correct password is entered, the display shows the value for 2 seconds and changes to "PS".
5. Choose the protected function to set.

NOTE: If entered password is not correct, "00" will flash for 5 seconds, then change to "PS". Use correct password to access protected Functions.

Attention: The password protected Advanced Settings can only be executed by a trained professional. The requirements of the EU: EN 12453, EN 13241; GB (UK, NI): BS EN 12453, BS EN 13241 must be fulfilled.

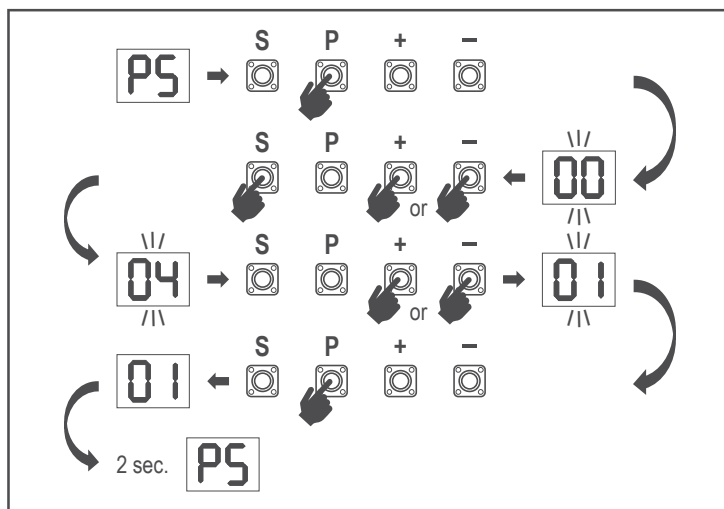


7.7.15c Password Change

1. Choose "PS" function and press "P" button.
2. "00" flashes in display.
3. Use "+" or "-" buttons to enter current password and press "S" button. Value starts flashing.
4. Use "+" or "-" buttons to enter NEW password and press "P" button.
5. Changed password value remains on display for 2 seconds. Then display changes to "PS".

NOTE: If wrong (current) password was entered, "00" will flash for 5 seconds and change to "PS". Password is not changed.

If password is lost, use Factory Default function (Fd) to go back to default settings. All settings (apart from Radio Memory) will be deleted. See page 18.



7.7.15d Force Motors 1 and 2 in Open and Close Directions

F1

Force Motor 1 in OPEN Direction

Force Motor 1 in OPEN direction allows force adjustment on top of force set during the Learning phase. Password must be entered to access this function.

00	Standard force (Default)	02	+30%
01	+15%	03	+50%

Force Motor 1 in CLOSE Direction

F2

Force Motor 1 in CLOSE direction allows force adjustment on top of force set during the Learning phase. Password must be entered to access this function.

00	Standard force (Default)	02	+30%
01	+15%	03	+50%

Force Motor 2 in OPEN Direction

F3

Force Motor 2 in OPEN direction allows force adjustment on top of force set during the Learning phase. Password must be entered to access this function.

00	Standard force (Default)	02	+30%
01	+15%	03	+50%

Force Motor 2 in CLOSE Direction

F4

Force Motor 2 in CLOSE direction allows force adjustment on top of force set during the Learning phase. Password must be entered to access this function.

00	Standard force (Default)	02	+30%
01	+15%	03	+50%

7.7.15e Speed Motors 1 and 2 in Open and Close Directions

S1

Speed Motors 1 and 2 in OPEN Direction

Speed Motor 1 and 2 in OPEN direction allows opening speed adjustment compared to the speed set during Learning phase. Password must be entered to access this function.

00	Standard speed (Default)	04	+50%
01	+10%	05	-10%
02	+20%	06	-20%
03	+30%		

7. PROGRAMMING

Speed Motors 1 & 2 in CLOSE Direction

S2

Speed Motor 1 and 2 in CLOSE direction allows closing speed adjustment compared to the speed set during Learning phase. Password must be entered to access this function.

00	Standard speed (Default)	04	+50%
01	+10%	05	-10%
02	+20%	06	-20%
03	+30%		

7.7.15f Soft-Stop Speed

SF

Soft-Stop Speed function allows adjustment of the Soft-Stop speed compared to default values set during Learning phase. Soft-Stop speed is 50% of the standard speed as per default setting. Standard speed change impacts the Soft-Stop speed. Password must be entered to access this function.

00	Standard speed (Default)	04	-50%
01	-10%	05	+10%
02	-20%	06	+20%
03	-30%		

8. BATTERY BACKUP

Battery Back-Up Mode

BU

2 Optional 12V, 2.2Ah lead batteries SKU 490EV (optional, not included) can be mounted inside the E-Box. Follow the manual of SKU 490EV for exact installation procedure. A Flashing lamp (if mounted) will flash 2 seconds every 10 minutes indicating BBU mode and power loss. Control board will switch into stand-by mode with active radio receiver accepting radio control device commands only. All other accessories and peripheral devices will not be functioning.

When in Battery Back-up mode, myQ Smartphone Control and wireless myQ devices will be disabled. Full charged battery capacity shall support up to ~20 cycles at a rate of 2 per hour. After 24 hours of BBU mode the battery shall provide power for 1 complete opening and closing cycle. Please note that only the specified battery can be used. Use of any other battery leads to loss of warranty and loss of liability of LiftMaster for any related damages resulting from use of unspecified batteries.

9. ERROR CODES

LED	Error code	Issue	Possible reason	Solution
E0	E0	Press transmitter, but no gate movement	AP is set to 00	Check if AP is set to 00. If yes, change to correct application setting.
E1	E1	Gate do not close, but can open.	1) IR1 is not connected, or wire is cut.	1) Check if IR1 is not connected, or wire is cut.
			2) IR1 wire is shorted out or reverse connected.	2) Check IR1 connection, change wires if needed.
			3) IR1 is not aligned or blocked for a moment.	3) Align IR transmitter and receiver to make sure both LED is on, instead of blinking. Make sure there is nothing hanging on gate that may cause IR blocking.
E2	E2	Gate can close when it is at open limit, but cannot open when it's at close limit.	1) IR2 is not connected, or wire is cut.	1) Check if IR2 is not connected, or wire is cut.
			2) IR2 wire is shorted out or reverse connected.	2) Check IR2 connection, change wires if needed.
			3) IR2 is not aligned or blocked for a moment.	3) Align IR transmitter and receiver to make sure both LED is on, instead of blinking. Make sure there is nothing blocking the IR.
E3	E3	Press transmitter, but no gate movement.	1) IR3 is not connected, or wire is cut.	1) Check if IR3 is not connected, or wire is cut.
			2) IR3 wire is shorted out or reverse connected.	2) Check IR3 connection, change wires if needed.
			3) IR3 is not aligned or blocked for a moment.	3) Align IR transmitter and receiver to make sure both LED is on, instead of blinking. Make sure there is nothing hanging on gate that may cause IR blocking in short time.
E4	E4	Press transmitter, but no gate movement.	1) Safety edge is not connected with 8.2kohm resistor.	1) Check if the 8.2 kOhm safety edge is properly connected or if the 8.2 kOhm resistor is installed.
			2) Safety edge wire is shorted out.	2) Check safety edge wires and replace wire if needed.
			3) Safety edge is pressed.	3) Check if safety edge is pressed.

7.8 Factory Default

Fd

Factory default function resets control board to the original factory set-ups. All settings, including limit settings, will be erased. LED display will show "E0". Programmed remote controls will remain learned. If Remote control accessories need to be erased refer to the respective Radio Controls Programming section of this manual.

00	no reset (Default)
01	reset to the factory default settings

7.9 Finish and Exit

FE

To exit the programming phase and save all changes, move to FE function and press "P" button. The control board will go into Stand-by mode and is ready to work.

There are also other ways to exit the programming and save settings:

- Press and hold "P" button for 5 seconds
- Wait 3 minutes after the last changes in the programming for automatic exit

9. ERROR CODES

LED	Error code	Issue	Possible reason	Solution
E5	E5	Press transmitter, but no gate movement.	1) STOP switch is open.	1) Check if STOP switch is open or damaged.
			2) STOP switch is not connected.	2) Check if STOP switch is disconnected. If yes, then reconnect STOP switch or change the respective Input setting to other value.
E7	E7	Press transmitter, but no gate movement.	Control board amplifier for Motor 1 fail.	Switch off power for 20 seconds and reset to check if control board recovers. If not, change control board.
E8	E8	Press transmitter, but no gate movement.	Control board amplifier for Motor 2 fail.	Switch off power for 20 seconds and reset to check if control board recovers. If not, change control board.
E9	E9	Press transmitter, but no gate movement.	Control board memory mistake.	Switch off power for 20 seconds and reset to check if control board recovers. If not, change control board.
F1	F1	Motor 1 stop and reverse during open or close.	Motor 1 is blocked.	Check and remove obstruction. Clean gate.
F2	F2	Motor 2 stop and reverse during open or close.	Motor 2 is blocked.	Check and remove obstruction. Clean gate.
F3	F3	Motor 1 stop and reverse during open or close.	Motor 1 stall or speed sensor is damaged.	Check if motor 1 stalled or speed sensor is damaged.
F4	F4	Motor 2 stop and reverse during open or close.	Motor 2 stall or speed sensor is damaged.	Check if motor 2 stalled or speed sensor is damaged.
F5	F5	Press transmitter, but motor has no action.	Radio module fail.	Switch off power for 20 seconds and reset to check if control board recovers. If not, change control board.
F6	F6	Gate reverse during closing.	Low battery power.	Charge battery.
F7	F7	Press transmitter, but no gate movement.	Control board damaged.	Switch off power for 20 seconds and reset to check if control board recovers. If not, change control board.
F9	F9	Press transmitter or push button, but motor has no action.	AP menu is reset to factory default.	Relearn limits.
LE	LE	Motor stops suddenly.	Press C button during limit learning.	Relearn limits.

10. TECHNICAL DATA

		AA250EVK		AA250EVK	
Input Voltage	VAC	220-240	External accessory power	24VDC - max. 500mA	
Input frequency	Hz	50/60	Flashing lamp connector	24VDC - max. 500mA	
Motor Voltage	VDC	24V	E-Lock /Magnetic lock connector	24VDC - max. 500mA	
"Standby consumption (without accessories)"	W	3.2	External relay	24VDC - max. 500mA	
			Safety edge	8,2 kOhm	
Motor Rated Power	W	100W (AA250-24P) 50W (AA250-24S)	Max. nr. of IRs	3	
Rated Load	Nm	72,4	Max. nr. of external inputs	3	
Maximum Torque	Nm	200	Battery back-up unit	2 x 12V, 2.2Ah batteries model 490EV	
Cycles per hour		10	Ingress Protection Motor	IP	44
Max. cycles per day		30	Noise Level	dB	< 70 db(A)
Max. wing width / weight	m / kg	1.5m / 250kg 2.0m / 200kg 2.5m / 150kg	Working temperature	°C	-20°C to +55°C
			Weight (kit)	Kg	20
			Transmitter Frequency	TX4EVF	868MHz (868.30MHz, 868.95MHz, 869.85MHz)
Sending power	<10mW				
End Limit System		Encoder with hard stops	Battery	CR2032 3V	
Operating Radio Frequency	MHz	RX 433MHz (433.30MHz, 433.92MHz, 434.54MHz) RX 868MHz (868.30MHz, 868.95MHz, 869.85MHz) TX 865.125MHz, 865.829MHz, 866.587MHz			
Sending Power		<10mW			
Code		Security+ 2.0			
Max. nr of remotes		180			
Max. nr. of keypads		4			
Max. nr. of myQ devices		16			



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