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2. Meaning of symbols

	Caution
	Attention
	Advice
	Check

3. General safety advice

Please read carefully!

Target group

Mounting, installation and initial operation of this operator may only be carried out by specialist personnel!

Qualified and trained specialist personnel are persons

- who have knowledge of the general and special safety regulations,
- who have knowledge of the relevant electro-technical regulations,
- with training in the use and maintenance of suitable safety equipment,
- with sufficient training and supervision by electricians,
- who are able to recognise the special hazards involved when working with electricity.
- with knowledge regarding applications of the EN 12635 standard (installation and usage requirements).

Warranty

For an operations and safety warranty, the advice in this instruction manual has to be observed. Disregard of these warnings may lead to personal injuries or material damages. If this advice is disregarded, the manufacturer will not be liable for damages that might occur.

Batteries, fuses and bulbs are excluded from warranty.

To avoid installation mistakes and damages to the door and operator, please follow exactly the mounting instructions provided in this manual. The system may only be used after thoroughly reading the respective mounting and installation instructions.

The installation and operating instructions are provided to and must be retained by the door system user. They contain important advice for operation, checks and maintenance.

This item is produced according to the directives and standards mentioned in the Manufacturer's Declaration and in the Declaration of Conformity. The product has left the factory in perfect condition with regard to safety.

Power-driven windows, doors and gates for industrial use must be checked before initial operation, when necessary and at least once a year by a specialist (with written documentation)!

Correct use

The operator is meant to be used exclusively to open and close garage doors.

The operator must be used in a dry place.

The maximum push and pull force must be observed.

Door requirements

The door must:

- stand still alone (by balance of springs),
- run smoothly.

3. General safety advice

Beside the advice in these instructions, please observe the general precaution and safety regulations!
Our sales and supply terms and conditions are effective.

Advice for installation of the operator

- Make sure that the door is in good mechanical condition.
- Make sure, that the door is balanced.
- Make sure that the door opens and closes correctly.
- Remove all components that are not required (e.g. cords, chains, angles etc.).
- Switch off all devices which will not be needed after the operator is installed.
- Before laying cables, the operator must be disconnected from the power supply.
Wait 10 seconds to be sure that the operator is without power.
- Observe the local safety regulations.
- Always lay mains and control cables separately. The control voltage is 24 V DC.
- Only mount the operator when the door is closed.
- Install all impulse and control devices (e.g. RC code keypad) within sight to the door and at a safe distance from movable parts of the door. A minimum mounting height of 1.5 m must be maintained.
- Permanently attach the warning decals against jamming in a clearly visible place.
- Following installation, ensure that door parts do not protrude onto public footpaths or streets.

Advice for initial operation of the operator

After initial operation, the door system operating personnel or their proxies must be familiarised with the use of the system.

- Make sure that children cannot access the door control unit.
- Before moving the door, make sure that there are neither persons nor objects in the operating range of the door.
- Test all existing emergency command devices.
- Never insert your hands into a running door or moving parts.

Advice for maintenance of the operator

To guarantee problem-free operation, regularly check and, if necessary, repair the following aspects. Always disconnect the operator from the power supply before carrying out any work on the door system.

- Check monthly whether the operator reverses when the door encounters an obstacle. Depending on the door's operational direction, place a 50 mm high/wide obstacle in the door travel path.
- Check the settings of the "OPEN" and "CLOSE" automatic cut-out function.
- Check all movable parts of the door and operator system.
- Check the door system for signs of wear or damages.
- Check whether the door can be easily moved by hand.

Advice for cleaning the operator

For cleaning never use: water jets, high pressure cleaners, acids or bases.

- Clean the operator with a dry cloth if necessary.

12.8 Declaration of incorporation

This Declaration of Incorporation has been prepared by the powered garage door operator manufacturer to meet the requirements of the Supply of Machinery (Safety) Regulations {Machinery Directive} and signifies that the accompanying powered garage door operator, if installed in accordance with the manufacturer's detailed instructions, will be suitable to be incorporated with a suitably designed garage door with a compatible Declaration of Incorporation.

It is the responsibility of the installing company to ensure that doors and drive units are correctly matched prior to installation.

It is also the responsibility of the installing company, as the Responsible Person, to ensure that a suitably nominated person should confirm that the power operated door has been installed in accordance with the instructions provided by both the door and drive unit manufacturer.

It is also the responsibility of the installing company to check after installation the operation of the power operated door and that any safety devices provided are suitable for the application and are all working satisfactorily. This will permit the nominated person to attach a CE label identifying the name of the installing company, a unique door reference number and a date of completion, and to complete and issue a Declaration of Conformity (see note below).

One copy of the Declaration of Conformity is to be issued to the client and one copy is to be retained by the installing company, together with the relevant two Declarations of Incorporation. In accordance with the requirements of the Machinery Directive and the UK supply of Machinery (Safety) Regulations, these records are to be retained on file for a period of ten years.

Note

Duplicate printed pads set out in the format of Declarations of Conformity in order to allow on site completion are available at a reasonable cost from the DSMA for both members and non-members. Alternatively, for an additional cost, a technical records file with full details of requirements and procedures for compliance, and including the necessary filing divisions, is also available.



The Door & Shutter Manufacturers' Association, 42 Heath Street,
Tamworth, Staffordshire B79 7JH Telephone: 01827 52337 Fax: 01827 310827

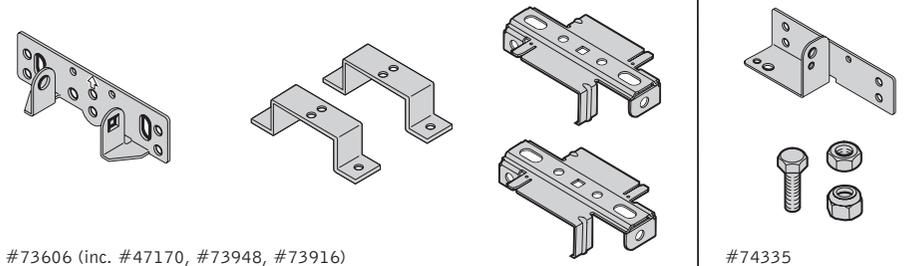
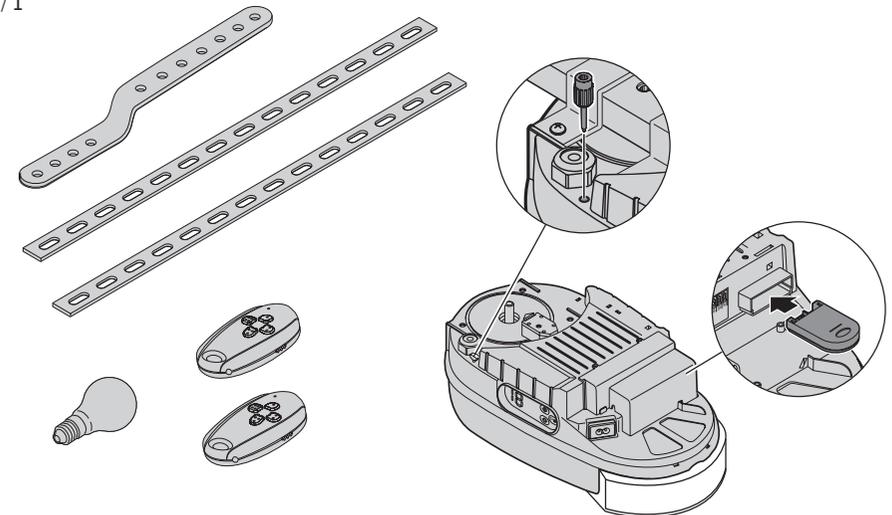
Introduction

Congratulations on the purchase of your new automatic garage door operator. It is designed to offer you convenience, durability and quality. This operator has been factory tested to ensure maximum quality and safety.

In order to prevent damage to the garage door or garage door operator and to comply with the Machinery Directive it is important that this operator is fitted in accordance with these instructions.

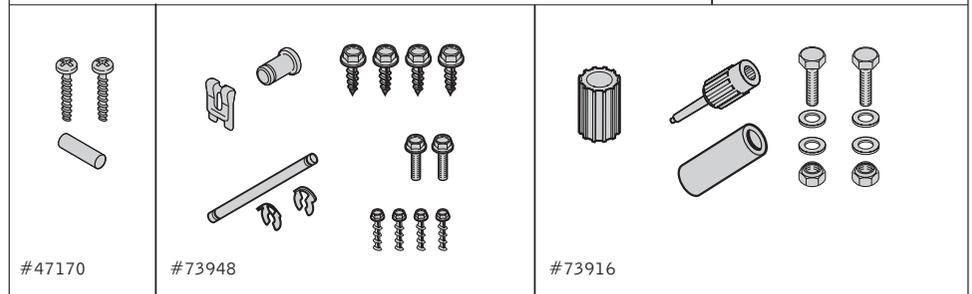
Drive rail supplied in separate carton.

4 / 1



#73606 (inc. #47170, #73948, #73916)

#74335



#47170

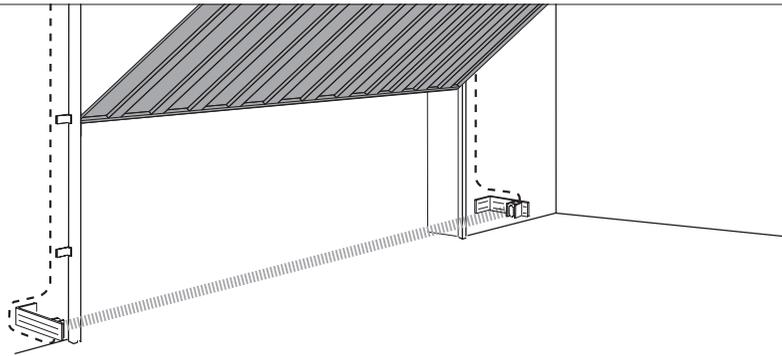
#73948

#73916

5. Safety features

- Automatic Door Reverse
An unmodified closing door will automatically reverse within 2 seconds if door is obstructed by person or object.
- Automatic Time Reverse
Closing door will automatically reverse if the door is not fully closed within 80 seconds.
- Safety Stop
Opening door will immediately stop when obstructed by person or object.
- Photocell (beam break)
For additional safety we recommend a Photocell (beam break) is installed. If the INFRA-RED BEAM is broken by a person or object whilst the door is closing, it will automatically reverse to the fully open position without actually having touched the closing door itself.

5 / 1



12. Attachment

12.6 Manufacturer's Declaration

We herewith declare that the product sold by us and mentioned below corresponds in its design, construction and version to the relevant and basic safety and health requirements of the following
EC regulations: EMC Directive, Machinery Directive and Low Voltage Directive.
Product changes made without our consent will render this Declaration void.

Product: Cardale DC650N III

Relevant EC Regulations:

- EC EMC Directive (89/336/EWG),
- Machinery Directive (98/37/EWG) and
- Low Voltage Directive (73/23/EWG and 93/68/EWG).

Applied harmonised standards, in particular:

EN 292-1
EN 61000-6-2
EN 61000-6-3
EN 55014
EN 61000-3-2
EN 61000-3-3
EN 60335-1
EN 60335-2-95
EN 12445
EN 12453
EN 300220-1
EN 301489-3
ETS 300683

01.10.2003

ppa. Enneking

12.7 EC Declaration of Conformity

We herewith declare that the product sold by us and mentioned below corresponds in its design, construction and version to the relevant and basic safety and health requirements of the following
EC regulations: EMC Directive, Machinery Directive and Low Voltage Directive.
Product changes made without our consent will render this Declaration void.

Product:

Relevant EC Regulations:

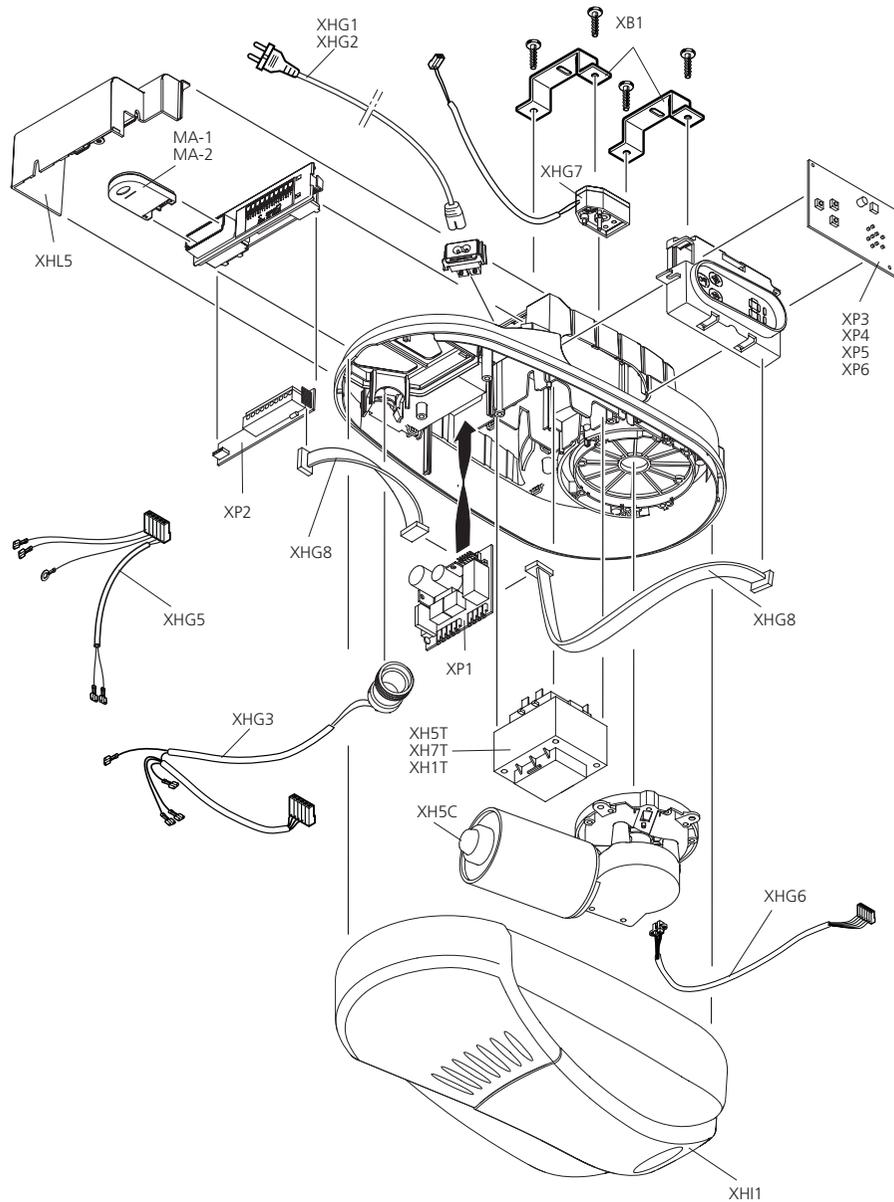
- EC EMC Directive (89/336/EWG),
- Machinery Directive (98/37/EWG) and
- Low Voltage Directive (73/23/EWG and 93/68/EWG).

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EN 60335-2-95
EN 12445
EN 12453
EN 300220-1
EN 301489-3
ETS 300683

Date / Signature

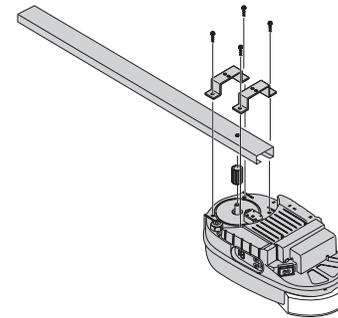
12.5 / 2



Attention:

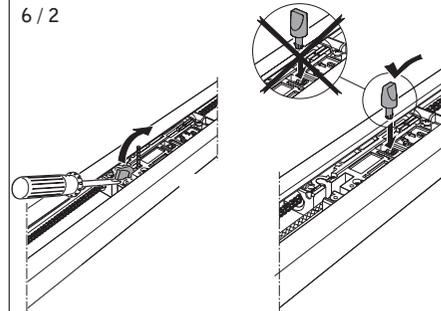
Where the operator has been specified with a 2-piece boom, please refer to the assembly instructions for this item supplied with the boom.

6 / 1



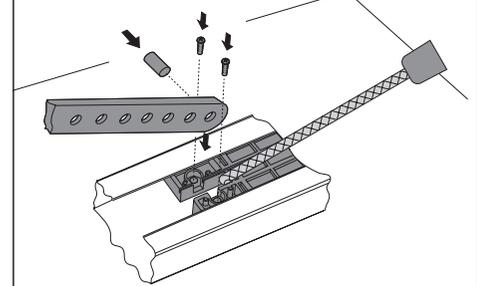
1. Install grey motorshaft adapter onto motorshaft. Bolt rail with brackets and screws to motorhousing. Make sure the screws are tightly fastened.

6 / 2



2. Fit the red slider that re-engages the emergency release and operator pull bar onto carriage.
 - a. Refer to fig. 6 / 2 to fit the red slider that re-engages the emergency release knob onto carriage.

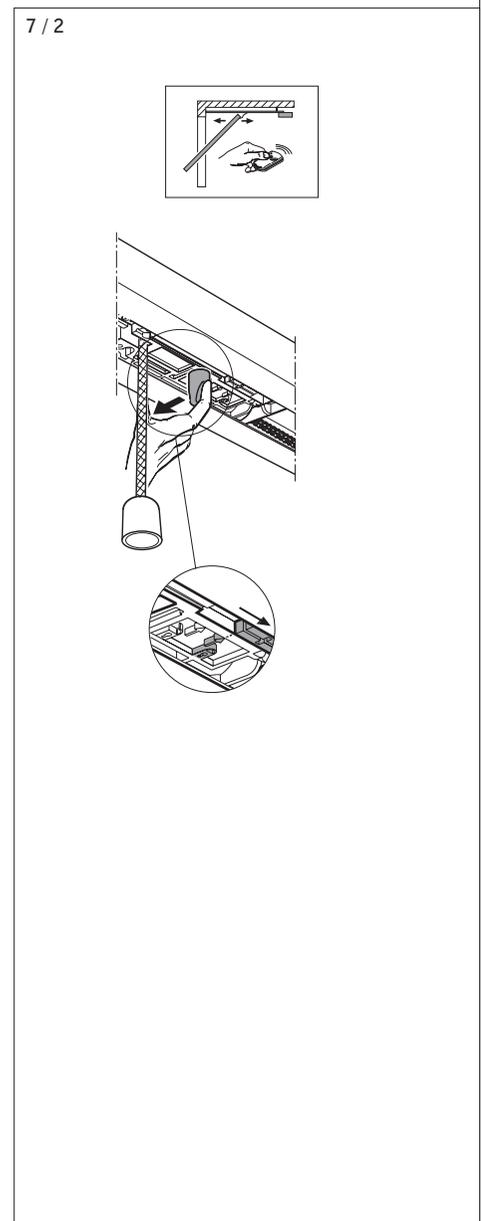
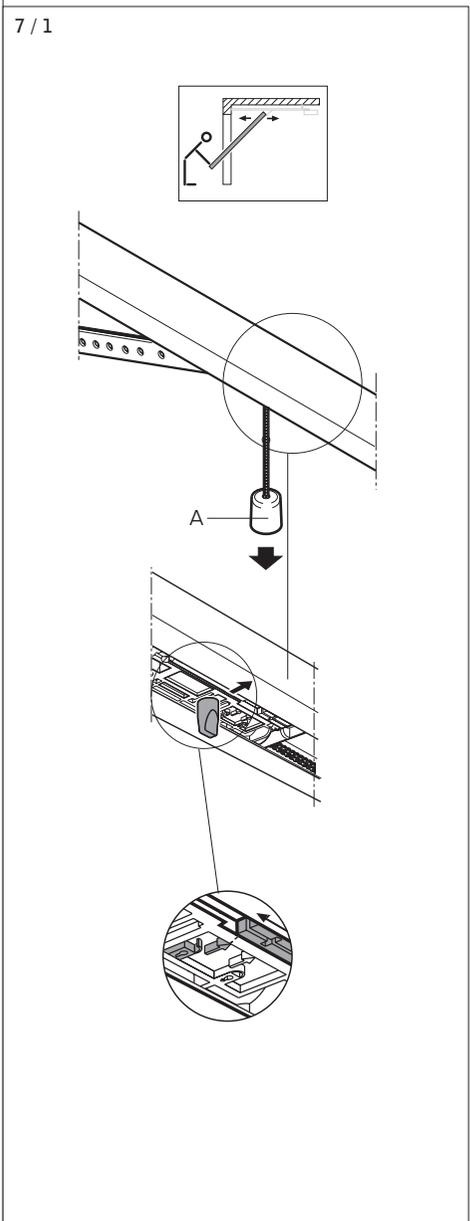
6 / 3



- b. Refer to fig. 6 / 3 to fit pull bar onto carriage. Note position of emergency release cord to ensure correct cord position after installation.

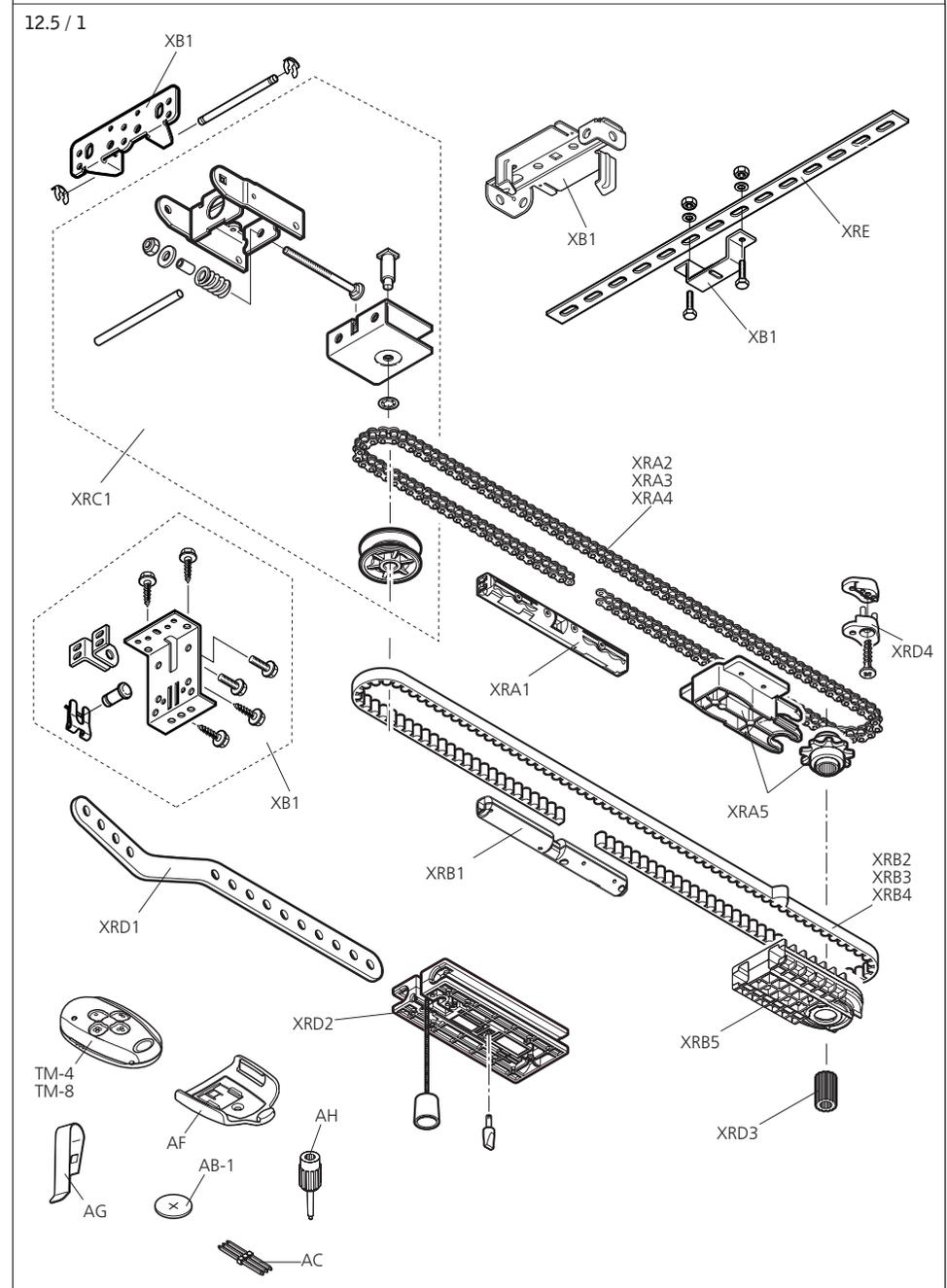
7. Carriage quick release

1. Pull cord "A" to disengage. Carriage re-engage remain disengaged. See fig. 7 / 1.
2. Move red slider "b" in direction of arrow to re-engage carriage at next movement. Start operator. See fig. 7 / 2.



12. Attachment

12.5 Replacement parts overview



12.4 Technical specifications

Electrical data

Connected loads	230 V
Frequency	50 Hz
Power consumption	0.7 A
Power input – operation	0.20 KW
Power input – stand-by	approx. 3.9 W
Operating mode (time)	2 min.
Control voltage	24 V DC
Protection category motor head	IP 20
Protection class	II
Lighting	1 x 40 W E14

Mechanical data

Door travel speed	0.14 m/s with "soft" start and "soft" stop
Max. push and pull force	650N
Nominal force	150N

General data

Temperature range	-20 to 60 °C
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Features / Safety functions

- Reference point technology
- Soft-Start / Soft-Stop
- Delay safety device
- Automatic cut-out
- Blocking protection
- Under voltage protection
- Excess travel stop
- Electronic travel cut-out
- Connection for pushbuttons, code buttons and key switches
- Connection possibility of potential-free limit switch message for signal light circuit board
- Error messages

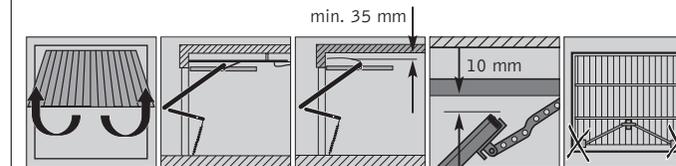
Accessories

- Modular antenna, 868 MHz, IP 65
- Mounting supports for sectional doors
- Release kits for swinging doors
- Adapter arm for retractable up-and-over doors
- Fittings for winged doors
- Photocells
- Emergency release kits

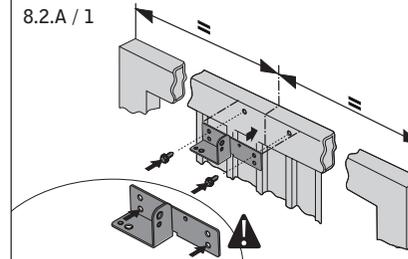
8.1 Determine garage door type

Determine your garage door type as indicated in Step 8.2.A, 8.2.B, 8.2.C, 8.2.D
Follow the individual instructions required for your specific garage door type.
If your garage door type is not included, please contact your distributor.
Special accessories or operator modifications may be required.

8.2.A 1-Piece up-and-over doors

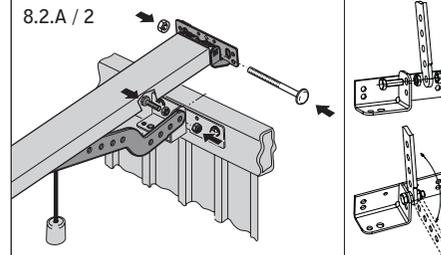


8.2.A / 1



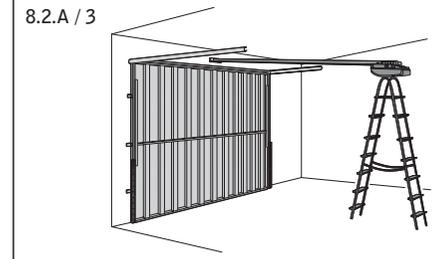
1. Install door bracket at centre position of door and rail bracket on centre position above door. Make sure there is at least 10 mm. clearance between highest travel point of door and rail.

8.2.A / 2



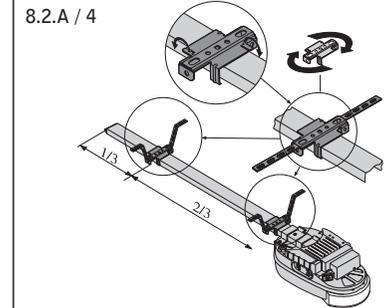
2. Level and mount operator.

8.2.A / 3



3. Disengage carriage from chain or belt!
Door may only be moved with moderate speed.

8.2.A / 4



4. Connect operator pull bar to door bracket.

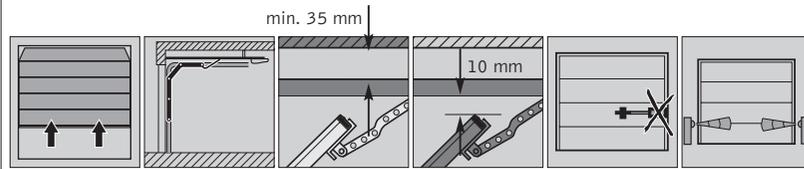


Attention:

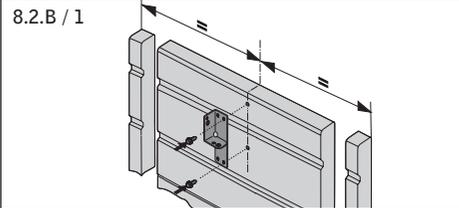
Remove or disable all door locks before installation!

8. Operator Installation

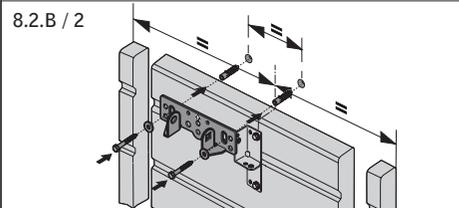
8.2.B Sectional doors



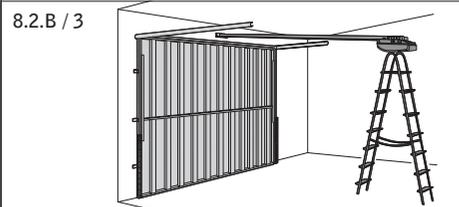
Attention:
A photocell is strongly recommended for use with sectional doors (available separately)!



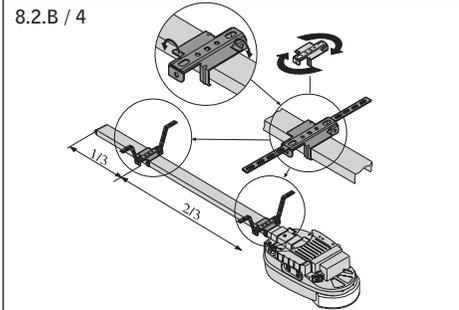
1. Fix adjustable door bracket to top section at the centre of the door.



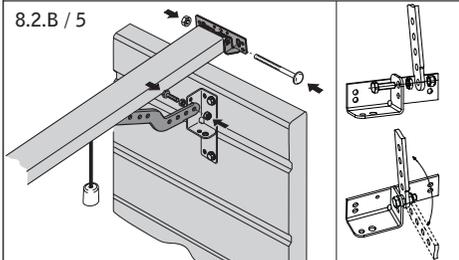
2. Install rail bracket on centre position above door. Make sure there is at least 10 mm clearance between highest travel point of door and rail.



3. Level and mount operator.



4. Disengage carriage from chain or belt. Door may only be moved with moderate speed.

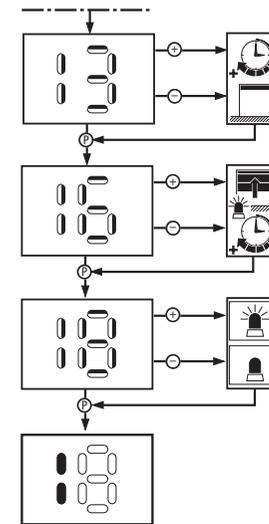


5. Connect operator pull bar to door bracket.

Attention:
Remove or disable all door locks before installation!

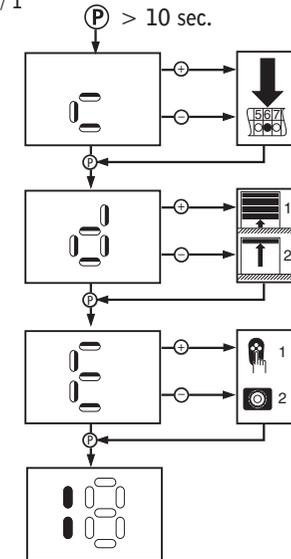
12. Attachment

12.2 / 2



12.3 Short Programming - Advanced settings part 2

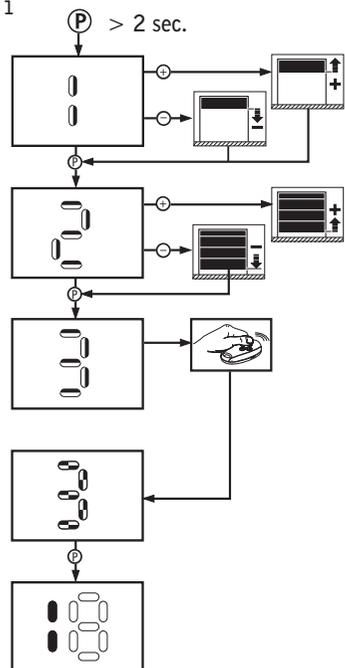
12.3 / 1



12. Attachment

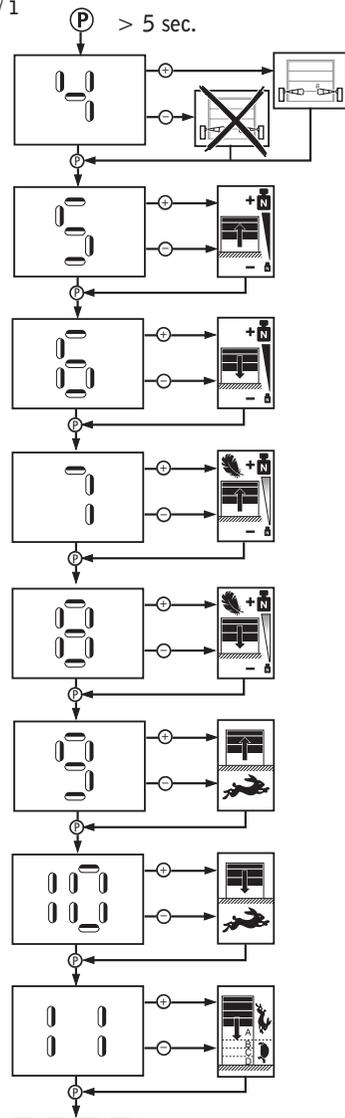
12.1 Short Programming - Basic settings

12.1 / 1



12.2 Short Programming - Advanced settings part 1

12.2 / 1



8. Operator Installation

8.3 Completion of installation

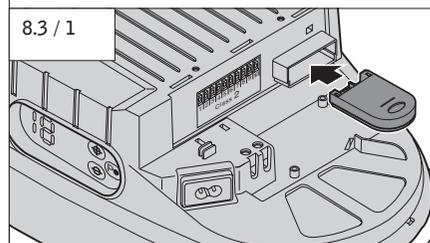


Advice:

For all other door types please contact your distributor!

1. Make sure motorhousing and rail are mounted correctly and secured. Strengthen where needed.
2. Install light bulb. Type E14, max. 40 Watt (not included).

8.3 / 1



3. Insert the modular receiver in the opening of the operator. See fig. 8.3/1.
4. Plug the mains cable into the operator.
5. Connect the operator mains plug with the power supply.



Attention!

Before you start Operator programming please make sure your carriage is engaged to chain or belt and door arm is attached to door.

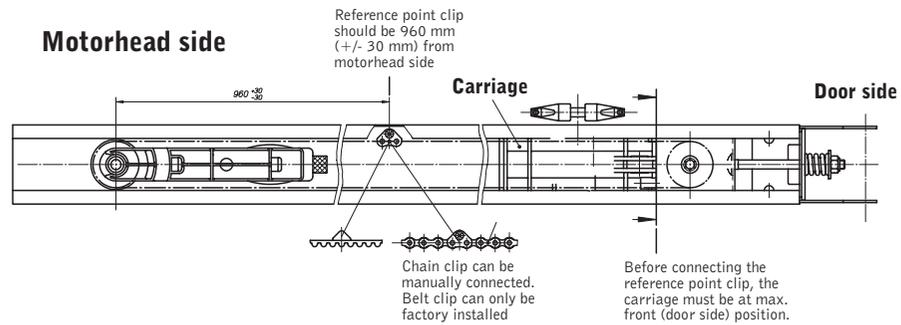
8. Operator Installation

8.4 Limit cam position (reference point clip)

In case you have to install a new limit cam on to your chain, please follow below instructions.

It is only possible to install a clip onto a chain. When you have a belt drive boom, it is not possible to reinstall a limit cam.

8.4 / 1



11. Advanced settings



Menu-Nr. E

Set "dead man function"

1. Letter E blinks.
2. Use + or - to set deadman function.
 - 1 deadman function overrules all
 - 2 photocell overrules deadman function (only E-King photocell as programmed in Menu 4)
3. Press P to store and to finish setting up the advanced settings part 2.



The operator is now in operational (normal) mode.

11.2 Advanced Settings part 2

To Set Up Advanced Settings part 2:



Menu-Nr. c
Set impulse type on terminal connector 6
(contact to OV terminal connector 7)

Operator is in normal operating mode.

1. Press P for 15 seconds until Nr. c blinks.
2. Release P when Letter c blinks.
3. Use + or - to set the signal light function:

A	B	C	D	E	F	G	H	-	-	-	-	-	-	-	-

- A Impulse NO contact
- B Impulse NC contact
- C Stop and reverse contact NO
- D Stop and reverse contact NC
- E Door open period function ON/OFF with timer (ie from 10:00 to 12:30)
- F Open only for induction loop

3. Press P to store and go to Menu-Letter d.



Menu-Nr. d
Set door reverse

1. Letter d blinks.
2. Use + or - to set door reverse.
 - 1 short door reverse
 - 2 full door reverse
3. Press P to store and go to Menu-Letter E.

9.1 Operator Control Panel Indications

Display of door or operator modes:

- Operational mode
- Door is open
- Door is closed
- Door at intermediate position
- During movement 1 sec. illuminated when reference point passed
- RC transmitter is sending a signal
- Push button impulse is activated
- Door is moving in open direction
- Door is moving in down direction
- Photocell is interrupted
- Vacation lock activated¹

¹ De-activate vacation lock with optional 3-function wall console or by briefly pressing "P" button on operator.

Adjustment buttons:

- Program button "decrease" and close test button
- Program button "increase" and open test button
- Programming button

Legend:

- LED off
- LED illuminated
- LED blinking
- LED rapid blinking

9. Programming

9.2 Programming Overview

Basic Settings

- | | |
|--|---|
| | 1. Programming 'door open' position |
| | 2. Programming 'door closed' position |
| | 3. Programming of hand transmitter code |

Advanced Settings part 1

Explanation

Factory settings

Icon	Parameter	Explanation	Factory settings
	Add photocell (beam break)	Setting whether the operator runs with or without photocell	1 = No
	Set maximum opening force	The maximum lifting force (linear line)	8
	Set maximum closing force	The maximum push force (linear line)	8
	Set offset (sensitivity) for learned opening force	The sensitivity of learned opening force	7
	Set offset (sensitivity) for learned closing force	The sensitivity of learned closing force	7
	Set operator speed up	The operator speed in opening direction	16 = 16/16
	Set operator speed down	The operator speed in closing direction	16 = 16/16
	Set soft stop	The soft stop before closing the door	2 = 200mm
	Automatic closing	Door open period set at 30sec. / 1sec. warning / external signal light blinking.	1 = off
	Set start-up warning phase before door opens	Setting whether a signal light will flash before the door starts to move in opening direction	1 = deactivated
	Set external relay function	The external optional relay can be programmed for external blinking or illuminated signal light	1 = GDO run solid

11. Advanced settings

Menu-Nr. 18 Set external relay function

- Nr. 18 blinks.
- Use + or - to set the signal light function
Possible Settings:

A	B	C	D	E	F	G	H	-	-	-	-	-	-	-	-	-	-

- A Illuminated during motor movement
- B Blinking during operator movement
- C Illuminated as internal operator light (timed)
- D Short impulse output (1 sec.)
- E Illuminated while Error with operator
- F Break-in alarm function warning (only when backdrive of motor detected)
- G Relay on when door closed position is reached
- H Relay is on when door open position is reached

- Press P to store and to finish setting up the advanced settings part 1.

The operator is now in operational (normal) mode.

11. Advanced settings

 **Menu-Nr. 13**
Automatic closing

 **Advice:**
Will only function when photocell installed

- Nr. 13 blinks.
- Use + or - to change preset values:

															
A	B		-	-	-	-	-	-	-	-					

A Off
B 30sec. door open / 1sec. warning phase / external light blinking

- Press P to store and go to Menu-Nr. 16.

 **Menu-Nr. 16**
Set start-up warning phase before door opens

- Nr. 16 blinks.
- Use + and - to change the start-up warning phase.
minimum phase: 0 seconds (factory set)
maximum phase: 7 seconds
Possible Settings (seconds):

															
0	1	2	3	4	5	6	7	8	-	-	-	-	-	-	-

- Press P to store and go to Menu-Nr. 18.

9. Programming

Advanced Settings part 2		Explanation	Factory settings
	The terminal connector 6 can be programmed for various types of accessory connections	1 = Impulse NO contact	Set door reverse
	The door reverse can be programmed	1 = Full door open reverse	Set 'dead man' function
	The 'dead man' feature can be programmed. Deadman or photocell overrules	1 = deadman overrules	
Factory reset			
	Press P button for >30	All programmed menus will be reset to factory settings	

9. Programming

9.3 Preparation for Programming

- The operator has to be mounted ready for operation
- The door is not yet closed completely
- If there is a photocell (beam break), it should be connected!

 **Advice:**
If a photocell is to be mounted, it has to be installed before programming of the door end positions. Only in this case it will be recognized automatically by the operator.

- When the door operator is turned on (plug in power cord) it runs a self-test; Nr. 18 will illuminate and operator 230V light will illuminate for approximately 2 seconds. When the light is off and Nr. 1 is illuminated the operator is in normal operating mode.

Adjustment Buttons:

All settings and adjustments can be made with the three adjustment buttons.



to change settings of chosen program menu



 to store menu setting and go to next menu.

 **Advice:**
The programming is cancelled if none of the three buttons (P, +, -) is actuated during a time period of more than 120 sec. All functions saved before with button P remain unchanged. When programming is cancelled, letter E is flashing.. After shortly pressing button P the error message Nr. 7 is displayed.



Attention:

The operator has two programming levels. For normal operation of the operator you only program the door end positions and the remote control in the Basic settings. Changes in the extended programming level may only be carried out by specialists!

Error Message



Advice:

In case of a malfunction the control Nr. E (MALFUNCTION) is flashing.

Check 'error messages' table for further details.

When Nr. E is flashing shortly press "P" button to retrieve error number.

Reference Point



When the operator passes the reference point sensor the middle segment of Nr. 8 (display 18) is illuminated for approximately 1 second.



Advice:

The door end positions can only be programmed if there is a valid reference point.

Factory reset

All menus can be reset by a RESET function to the original values set by factory. Reset is activated by press & hold the P button for 30 seconds until nr. 9 starts to count down to nr. 0. Release "P" button when nr. 18 is visible.



Advice:

The factory default setting and the reset position for the control unit is in the CLOSED end position. For this reason, in order to guarantee trouble-free programming, the door must be in the CLOSED end position.

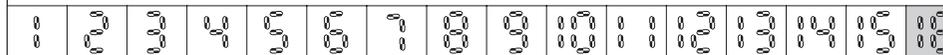
11. Advanced settings



Menu-Nr. 9

Set operator speed up

1. Nr. 9 blinks.
2. Use + or - to change the operator speed up.
minimum speed: 7
maximum speed: 16 (factory set)
Possible Settings:



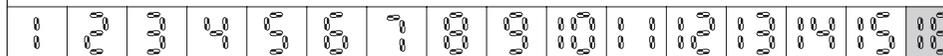
3. Press P to store and go to Menu-Nr. 10.



Menu-Nr. 10

Set operator speed down

1. Nr. 10 blinks.
2. Use + or - to change the operator speed down.
minimum speed: 7
maximum speed: 16 (factory set)
Possible Settings:



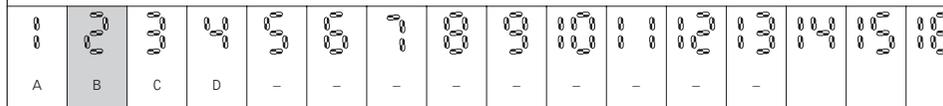
3. Press P to store and go to Menu-Nr. 11.



Menu-Nr. 11

Set soft stop

1. Nr. 11 blinks.
2. Use + or - to change soft stop options



A no soft stop
B 200mm. soft stop
C 300mm. soft stop
D 400mm. soft stop

3. Press P to store and go to Menu-Nr. 13.

11. Advanced settings



Menu-Nr. 7
Set offset (sensitivity) for learned opening force



Attention:

The learning power limit is set automatically. Only change it if necessary (error No. 17). Always test the max. allowed operating forces according to EN 12445 and EN 12453!

1. Nr. 7 blinks.
2. Use + or - to change offset.
Deactivated: 1
minimum offset: 2
maximum offset: 16
Possible Settings:



3. Press P to store and go to Menu-Nr. 8.



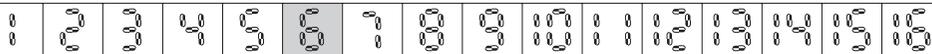
Menu-Nr. 8
Set offset (sensitivity) for learned closing force



Attention:

The learning power limit is set automatically. Only change it if necessary (error No. 17). Always test the max. allowed operating forces according to EN 12445 and EN 12453!

1. Nr. 8 blinks.
2. Use + or - to change offset.
Deactivated: 1
minimum offset: 2
maximum offset: 16
Possible Settings:



3. Press P to store and go to Menu-Nr. 9.

9. Programming

9.4 Operator Programming - Basic Settings

Menu Overview:

1. Set door OPEN position
2. Set door CLOSED position
3. Program hand transmitter

To Set Up The Operator:



Attention:

Make sure the internal receiver is installed (see page 13). Press transmitter button once before you start with operator programming – basic settings



Menu-Nr. 1:
Set door open position

Operator is in normal operating mode.

1. Press P for 3 seconds until Nr. 1 blinks.
2. Release P when Nr. 1 blinks.
3. To move the garage door to desired fully open position press AND hold the + (open) button until desired door open position is reached. For fine-tuning use the + (open) and - (close) buttons.



Advice:

The reference point has to be passed 1x. All LED segments will switch OFF for 1sec. when limit switch is activated WHILE in programming mode. Refer to Chapter 9.1 when motor is in operational mode.

4. Once door position is correct press P to store and go to Menu-Nr. 2.



Menu-Nr. 2:
Set door close position

1. Nr. 2 blinks.
2. To move the garage door to desired fully CLOSED position press & hold the - until desired door close position is reached.
For fine-tuning use the - (close) and + (open) buttons.



Advice:

The reference point has to be passed 1x. All LED segments will switch OFF for 1sec. when limit switch is activated WHILE in programming mode. Refer to Chapter 9.1 when motor is in operational mode.

3. Once door position is correct press P to store and go to Menu-Nr. 3.

9. Programming



Menu-Nr. 3: Program the transmitter code

1. Nr. 3 blinks.
2. Press transmitter button until Nr. 3 blinks rapidly.
3. Press P to store multi-bit transmitter code and to finish basic programming. Nr. 1 of 18 will be illuminated indicating operator is in operational (normal) mode.

Making Adjustments:

To change the settings of an individual menu:

1. Press P for approximately 2 seconds until Menu-Nr. 1 blinks
2. Follow individual instructions for chosen menu
3. Repeatedly press P to scroll through the menus



When you reach last menu by pressing P the operator will automatically return to operational mode (Nr. 1 of 18 is illuminated).

If an individual programming menu is skipped its settings remain unchanged.

11. Advanced settings



Menu-Nr. 6 Set maximum closing force



Attention:

The automatic cut-out is set automatically. Only change it if necessary (error No. 10). Always test the max. allowed operating forces according to EN 12445 and EN 12453!



Advice:

The setting of the automatic cut-out corresponds to the maximum power of the operator. At the first travel to OPEN or CLOSE direction after 'POWER ON' the automatic cut-out is effective according to the adjustment. For further travels the self-learned power, that is more sensitive, is effective. The automatic cut-out is still the upper limit of power.

1. Nr. 6 blinks.
2. By pressing + and - set the desired maximum closing force.
Possible Settings:



3. Once maximum closing force is set press P to store and go to Menu-Nr. 7.



Attention:

When re-programming the end positions (Basic settings) the closing force is learned once more. With new setting of the end positions the force values are determined automatically. Depending on the door travel properties increasing of the force values may be necessary.

11. Advanced settings

To Set Up Advanced Settings:



Menu-Nr. 4

Add photocell (Only E-King photocell which is an optional accessory)

Operator is in normal operating mode.

1. Press P for 5 seconds until Nr. 4 blinks.
2. Release P when Nr. 4 blinks.
3. A. Press + if a photocell is to be installed (Nr. 2 flashes)
B. Press - if no photocell is to be installed (Nr. 1 flashes)
4. Press P to store settings and to go to Menu-Nr. 5.



Menu-Nr. 5

Set maximum opening force



Attention:

The automatic cut-out is set automatically. Only change it if necessary (error No. 10). Always test the max. allowed operating forces according to EN 12445 and EN 12453!

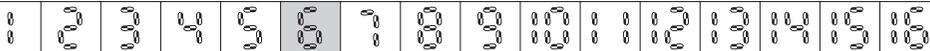


Advice:

The setting of the automatic cut-out corresponds to the maximum power of the operator. At the first travel to OPEN or CLOSE direction after 'POWER ON' the automatic cut-out is effective according to the adjustment. For further travels the self-learned power, that is more sensitive, is effective. The automatic cut-out is still the upper limit of power.

1. Nr. 5 blinks.
2. By pressing + and - set the desired maximum lifting force.

Possible Settings:



3. Once maximum opening force is set press P to store and go to Menu-Nr. 6.



Attention:

When re-programming the end positions (basic settings) the opening force is learned once more. With new setting of the end positions the force values are determined automatically. Depending on the door travel properties increasing of the force values may be necessary.

9. Programming

9.5 Function test

Test run of the maximum required lifting force



Control:

After installing the operator the following test runs and checks must be carried out.

After setting the end positions, the operator adopts the maximum required lifting force during the first two runs.

- Run the operator (with coupled door) without interruptions:
1 x from the CLOSED end position to the OPEN end position and back.

During this test run, the operator determines the maximum opening and closing lifting force as well as the reserve power (offset value) which is required to move the door



Advice:

These settings remain unchanged even if power supply is interrupted. The maximum required OPEN and CLOSE lifting force reverts back to the factory default settings only when the reset button is pressed.

9. Programming

9.6 How to program an additional transmitter



Advice:

- Both sides of the plug connections can be used identically.
- For multi-channel hand transmitters this step has to be carried out separately for each button.



Attention:

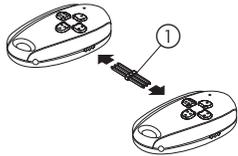
- An actuation of the hand transmitter may start the door movement!
- After the hand transmitter has been recorded, the garage door system to be actuated must also be reprogrammed to adopt the new coding, since the old coding has been irretrievably lost!

Learning the coding

This function is meant to transmit the coding of an existing hand transmitter to an additional hand transmitter.

Step 1

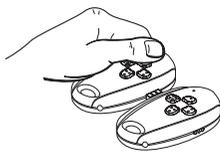
9.6 / 1



- Connect both hand transmitters by means of the enclosed coding plug (1).

Step 2

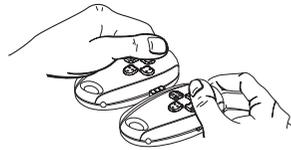
9.6 / 2



- Actuate the existing hand transmitter and hold the button.
The LED on the transmitter is on.

Step 3

9.6 / 3



- Actuate the desired button of the new hand transmitter and hold the button of the existing hand transmitter.

After 1 - 2 sec. the LED on the new transmitter is glowing permanently.

Programming is terminated.

The new hand transmitter has now taken over the coding of the existing hand transmitter.

- Remove the coding plug (1).

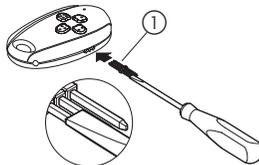
Altering the coding

It is possible to change the coding of the hand transmitter in case that a hand transmitter has gone lost.

For this insert the coding plug (1) into the hand transmitter that has to be reprogrammed.

Step 1

9.6 / 4



- Insert the coding plug 1 into the hand transmitter.
- Short-circuit one of the outer pins of the coding plug with the centre lead (e.g. by means of a screwdriver).
- Actuate the desired button on the hand transmitter.
The integrated random program generates a new code. The LED is flashing quickly.

As soon as the LED on the hand transmitter is on permanently, release the button of the hand transmitter and remove the coding plug.

11. Advanced settings



Attention:

Programming the advanced features of this operator must only be undertaken by fully trained and qualified personnel. Please contact your dealer for details.

11.1 Advanced Settings part 1



Attention:

When using "Automatic Closing" a photocell must be connected and programmed in accordance with Menu-Nr. 4.



Advice:

If a photocell is to be mounted, it has to be installed before programming of the door end positions. Only in this case it will be recognized automatically by the operator.

The values for the automatic cut-out (= max. force) and learning power limit (= offset in power curve) can be set manually in the advanced settings programming level.

A setting should always be carried out as soon as a less sensitive setting has to be chosen due to door travel properties caused by site conditions, as otherwise the automatic cut-out or power limit would react and cause malfunctions.

In general you have to take care that the allowed operating forces according to EN 12445 and EN 12453 are not exceeded.

The setting of the automatic cut-out corresponds to the maximum power of the operator.

At the first travel to OPEN or CLOSE direction after 'POWER ON' the automatic cut-out is effective according to the adjustment. For further travels the self-learned power, that is more sensitive, is effective. The automatic cut-out is still the upper limit of power.

10. Troubleshooting

Malfunctions without error message		
Error	Cause	Solution
Nr. 1 of Nr. 18 does not light up.	- no voltage.	- check if mains power supply is available. - check mains socket.
	- thermal overload protection in power transformer activated.	- allow power transformer to cool down.
	- defective control unit.	- check operator.
No reaction on impulse.	- connection terminals for "impulse" button were by-passed, e.g. due to a short-circuit or flat terminals.	- separate possibly connected key switches or interior pushbuttons from the control unit.
No reaction on impulse via hand transmitter.	- modular antenna is not inserted.	- connect antenna with the control unit.
	- hand transmitter coding does not correspond to the receiver coding.	- check coding. - Activate hand transmitter again.
	- hand transmitter battery empty.	- insert new 3V CR 2032 battery.
	- defective hand transmitter, control unit electronics or modular antenna.	- check all 3 components.

10. Troubleshooting

Malfunctions with error message		
Error	Cause	Solution
	A malfunction has been registered. By quickly pressing the P button, an error number will be displayed. Each number indicates individual type of malfunction.	
	- No error messages in memory or factory reset accomplished.	
	- external photocell interrupted or defective.	- remove obstacle or check photocell.
	- Photocell is programmed but not connected.	- Deactivate photocell or connect it.
	- after 120 seconds without pressing a button, the programming mode terminates automatically.	
	- defective reference point switch.	- check operator.
	- defective RPM sensor / blocked operator or operator booms.	- check operator and operator booms.
	- door movement too stiff. - blocked door.	- make door easily moveable.
	- Maximum force is active (linear line).	- Have maximum force checked by specialist dealer.
	- excess travel stop.	- check operator and operator booms.
	- Anti-motor back drive detected when Motor was in operational mode.	- check external (burglary) damages to door.
	- Vacation lock activated.	- de-activate vacation lock on 3-function wall console or by briefly pressing P button.
	- undervoltage (Current lower than 150VAC).	- check building power supply.