

Comfort 211

Operator system for Garage Doors

GB



FULL-SERVICE



OPERATOR SYSTEMS
FOR GARAGE DOORS



OPERATOR SYSTEMS
FOR SECTIONAL DOORS



OPERATOR SYSTEMS
FOR SLIDING GATES



OPERATOR SYSTEMS
FOR HINGED GATES



OPERATOR SYSTEMS
FOR ROLLER SHUTTERS



PARK BARRIER
SYSTEMS



ELECTRONIC
CONTROL UNITS



PRODUCT SERVICE



ACCESSORIES



Manual for installation and operation













Marantec 

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1. Meaning of symbols

Controls and motor unit symbols

-  Photocell
-  Door position OPEN
-  No function during operation
-  Door position CLOSED
-  Reference control point
-  Malfunction
-  Impulse
-  Operation, voltage
-  Closing edge safety device
-  STOP
-  External control elements
-  Modular antenna

Advice



Caution! Danger of personal injury!

The following safety advice must be observed at all times so as to avoid personal injury!



Attention! Danger of material damage!

The following safety advice must be observed at all times so as to avoid material damage!



Advice / Tip



Check



Reference

Type plate

Type: _____
Art.-No.: _____
Product-No.: _____

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3. General safety advice



Please read carefully!

Target group

This operator system may only be installed, connected and put into operation by qualified and trained professionals!

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,
- who are sufficiently trained and supervised by qualified electricians,
- who are able to recognise the particular 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. Disregarding these warnings may lead to personal injury or material damage. 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 errors and damage to the door and operator system, it is imperative that the installation instructions are followed. The system may only be used after thoroughly reading the respective mounting and installation instructions.

The installation and operating instructions are to be given to the door system user, who must keep them safe.. 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-operated windows, doors and gates must be checked by an expert (and this must be documented) before they are put into operation and thereafter as required, but at least once a year.

Correct use

The operator system is designed exclusively for opening and closing garage doors.

The operator must be used in a dry place.

The maximum push and pull force must be observed.

Door requirements

The operator system is suitable for:

- small and medium garage doors up to a door weight of 75 kg
(this corresponds approximately to a door size of 3000 mm x 2250 mm with a weight of approx. 11 - 15 kg/sqm).

The door must:

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

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

3. General safety advice



Please read carefully!

Information on installing the operator system

- Ensure that the door is in good mechanical condition.
- Ensure that the door can stop in any position.
- Ensure that the door can be easily moved in the OPEN and CLOSE directions.
- Ensure that the door opens and closes properly.
- Remove all unnecessary components from the door (e.g. cables, chains, brackets).
- Render any installations inoperable that will no longer be needed after the operator system has been installed.
- Before commencing cabling works it is very important to disconnect the operator system from the electricity supply. Ensure that the electricity supply remains disconnected throughout the cabling works.
- Adhere to the local protection regulations.
- Lay the electricity supply cables and control cables; these MUST be laid separately. The controls voltage is 24 V DC.
- Install the operator system with the door in the CLOSED position.
- Install all the impulse transmitters and control devices (e.g. remote control buttons) within sight of the door and at a safe distance from the moving parts of the door. A minimum installation height of 1.5 m must be observed.
- Permanently fix the warning signs, which advise of the danger of becoming trapped, at conspicuous locations.
- Ensure that no part of the door extends across public footways or roads when the installation is complete.

Information on commissioning the operator system

After initial operation, the persons responsible for operating the door system, or their representatives 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.

Information on servicing the operator system

To ensure proper operation, the following items must be checked regularly and repaired if necessary. Before any works to the door system are undertaken, the operator system must be disconnected from the mains.

- Check once a month to ensure that the operator system reverses if the door encounters an obstacle. Depending on the operational direction of the door, place a 50 mm high/wide obstacle in its 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 damage.
- Check whether the door can be easily moved by hand.

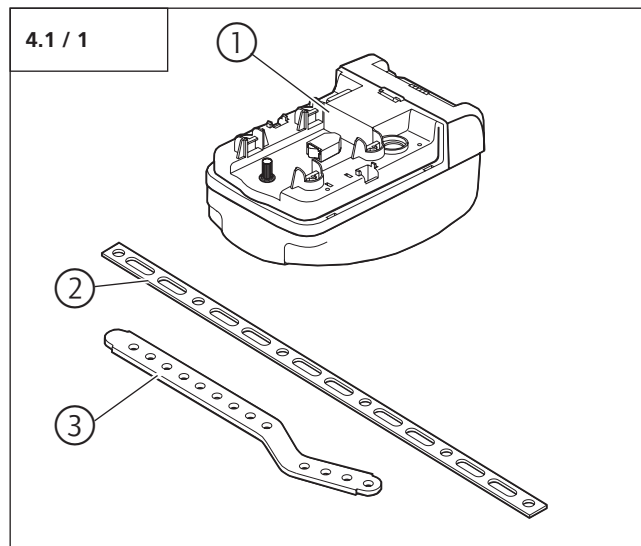
Information on cleaning the operator system

Never use water jets, high pressure cleaners, acids or bases for cleaning.

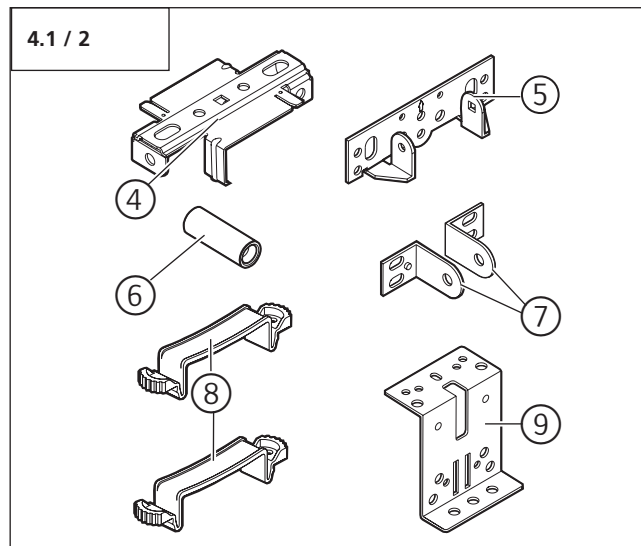
4. Product overview

4.1 Comfort 211 supply package

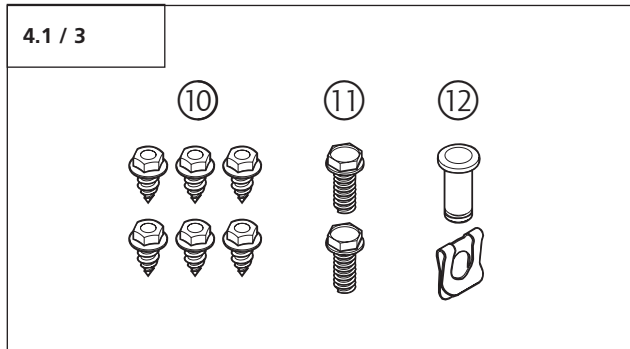
Standard package



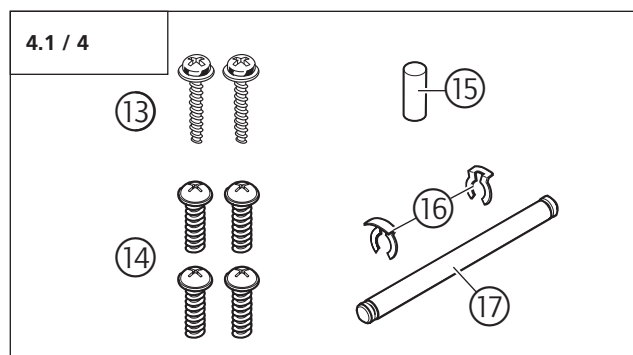
- 1 Comfort 211 motor unit
- 2 Support plate
- 3 Door link



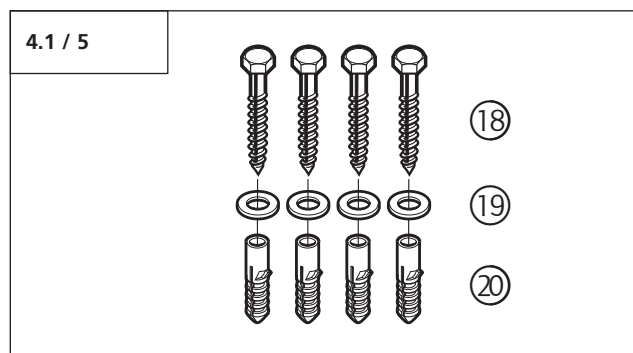
- 4 Support clip
- 5 Lintel joining plate
- 6 Securing sleeve
- 7 Door link bracket (2x)
- 8 Boom clamps (2x)
- 9 Door connector



- 10 Self-tapping screws 6.3 x 16 (6x)
- 11 Hexagonal head screws M6 x 20 (2x)
- 12 A8 bolts with SL securing clip

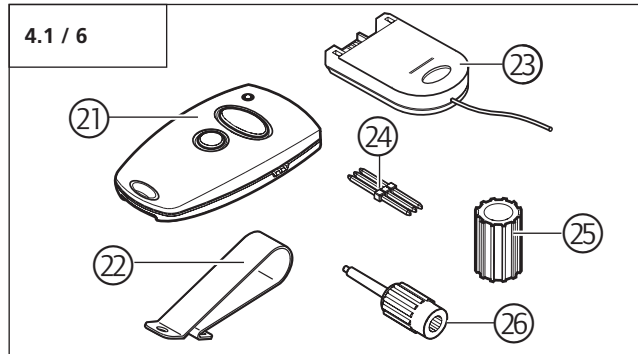


- 13 Screws 4.0 x 18 (2x)
- 14 Screws 4.0 x 10 (4x)
- 15 Bolts 8 x 20
- 16 Securing clips (2x)
- 17 Hinge pins \varnothing 6

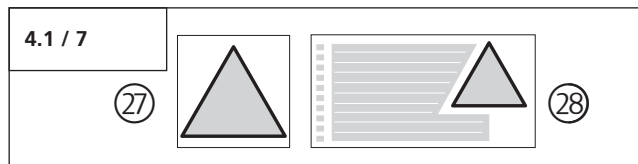


- 18 Screws 8.0 x 70 (4x)
- 19 A8 U-plate (4x)
- 20 U10 wall plugs (4x)

4. Product overview



- 21 Hand transmitter
- 22 Sun visor clip
- 23 Modular antenna
- 24 Transmission plug
- 25 Adapter sleeve
- 26 Programming pin



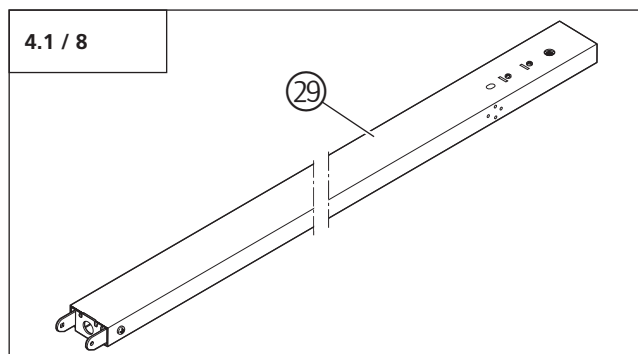
- 27 Release warning sign
- 28 Warning stickers

In addition to the components included in the standard package, the following accessories are required for the installation:

- drive boom

Drive booms

The motor unit can be combined with various types of drive boom.

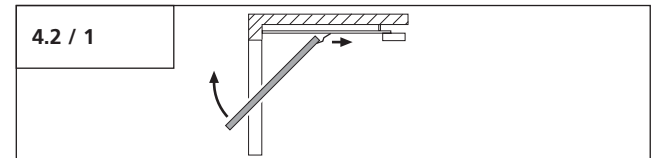


- 29 Drive boom

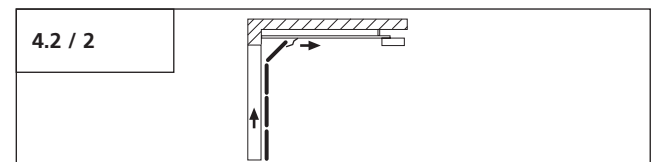
4.2 Door variations

The standard supply package is suitable for the following types of door.

Swing out retractable up-and-over door

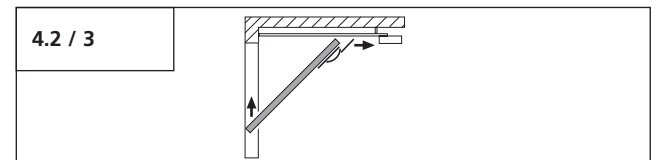


Sectional door



Special accessories are necessary for the following door type.

Non-swing out retractable up-and-over door
















5. Preparation for mounting

5.1 General notes

The pictures in these instructions are not true-to-scale. Dimensions are always given in millimetres (mm)!

For correct mounting you will need the following tools:

5.1 / 1	 10	 13	 10
 13	 2	 Ø 6	 Ø 10
 Ø 5			
			

5.2 Checks



Attention!

In order to guarantee correct mounting, carry out the following checks before installing.

Supply package

- Check the package to ensure that all the parts are included.
- Check that you have all the additional components that are necessary for your particular installation requirements.

Garage

- Check whether your garage has a suitable mains connection and a mains disconnection facility.

Door



Attention!

For garages without a second entrance: the garage door must be fitted with an emergency release system to allow access to the garage if a fault occurs.

If a release kit is used:

- Check that the door locks are functioning correctly. The door locks may not be disabled under any circumstances.

If a release kit is **not** used:

- Dismantle or disable the door locks.
- Check that the door to be operated fulfils the following conditions:
 - the door must be easily moveable by hand,
 - the door should automatically remain in every position into which it was moved.

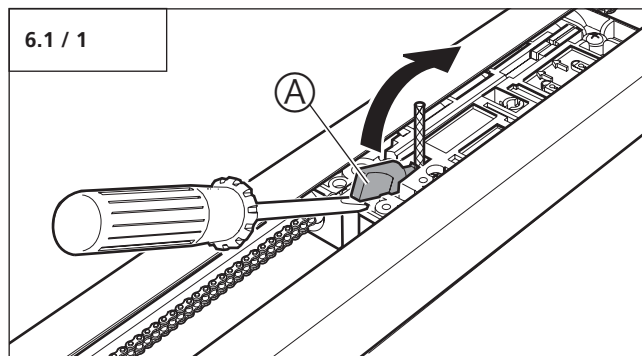
6. Installation

6.1 Preparing the drive boom

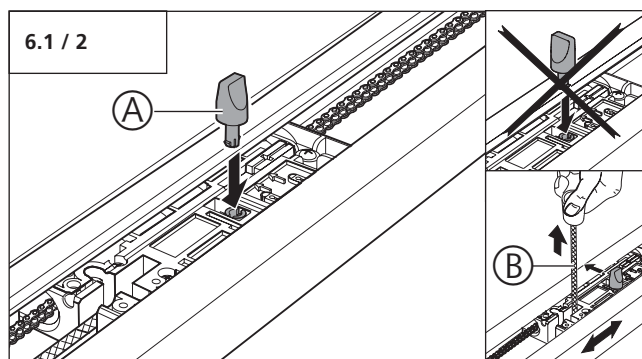


Reference:

When using multi-component booms, refer to the corresponding instruction manual.



- Remove the red release pin (A).



- Press the red release pin (A) as far as possible into the red opening on the carriage.
- Pull the pull cord (B) to release the carriage.



Reference:

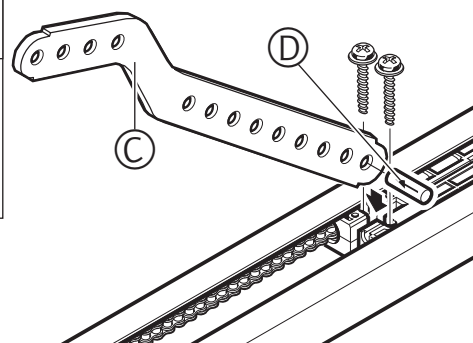
The release function for the carriage is described in Section 6.6.

The carriage is now unlocked and can move freely in the drive boom.

6.1 / 3

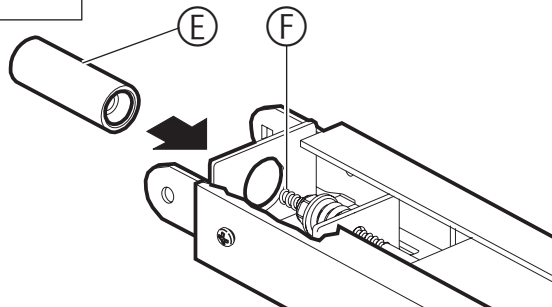


4 x 18



- Insert the door link (C) using the bolt (D) into the carriage.
- Screw the bolt down (D) with two screws.

6.1 / 4



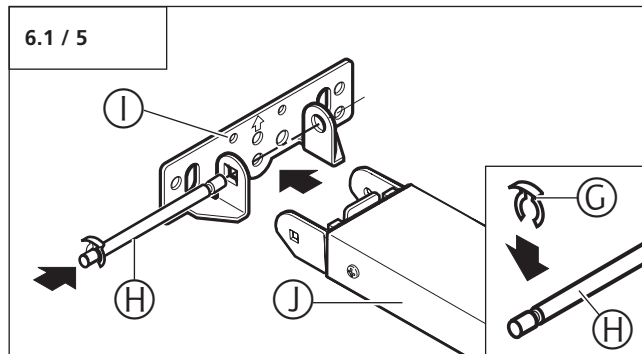
- Slide the red securing sleeve (E) over the tension straining screw (F).



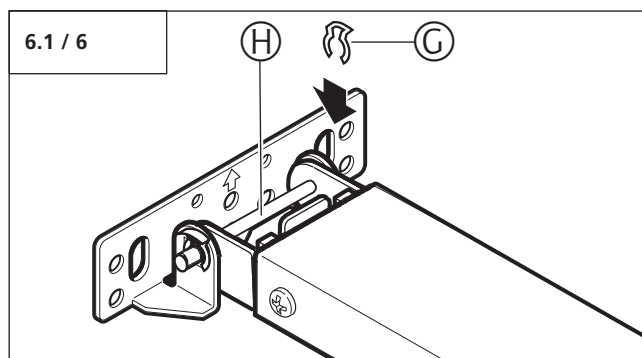
Advice:

The securing sleeve serves as protection against unauthorized, forceful dismantling (break-in) from outside.

6. Installation



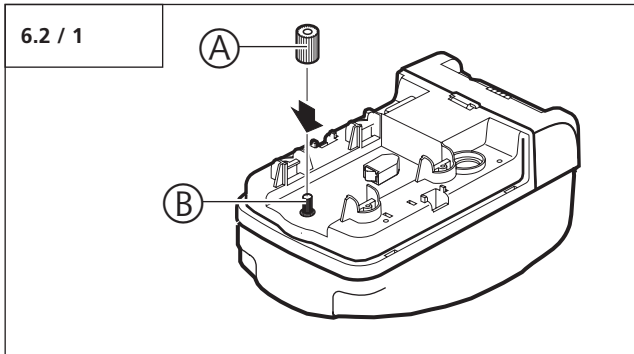
- Push the securing clip (G) onto the pivot bolt (H).
- Connect the lintel joining plate (I) and the boom end (J) to the pivot bolt (H).



- Secure the pivot bolt (H) with an additional securing clip (G).

6. Installation

6.2 Installing the motor unit and drive boom

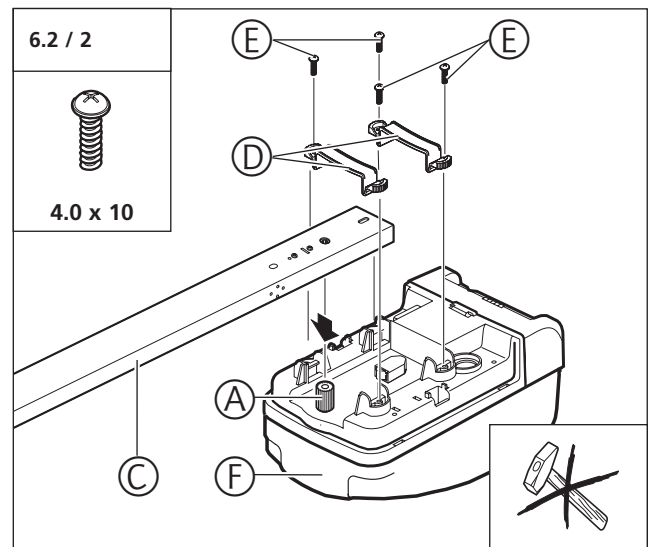


- Push the adapter sleeve (A) onto the gear shaft (B) as far as it will go.



Caution!

The drive boom (C) must be carefully mounted on the motor unit (F). Do not use force, as this could damage the gear teeth!



- Align the drive boom (C) such that it runs parallel to the surface of the motor unit (F).
- Place the drive boom (C) in the correct position on the adapter sleeve (A).
- Applying slight pressure, lower the drive boom (C) onto the motor unit (F).



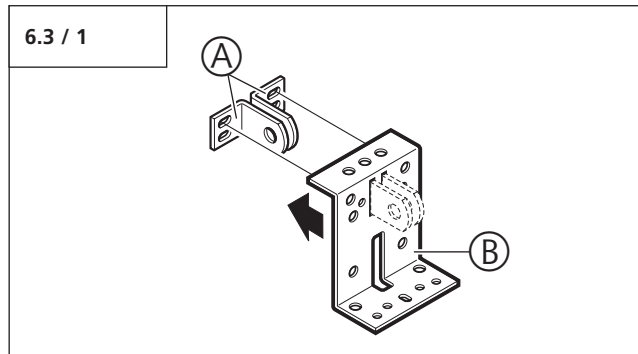
Tip:

When the drive boom (C) is correctly aligned, a short pull on the drive element (chain drive, toothed drive belt or ball chain) is sufficient to lower the drive boom.

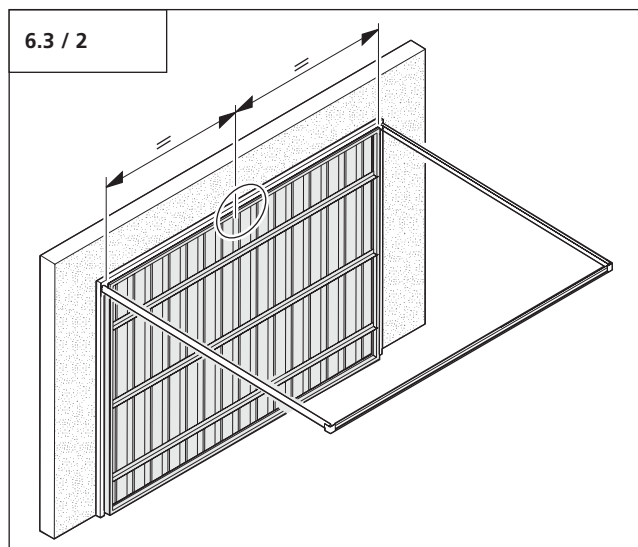
- Position the boom clamps (D) on the drive boom (C).
- Screw the boom clamps (D) to the motor unit (F) using the four screws (E).

6. Installation

6.3 Installation on swing-out retractable up-and-over doors



- Connect both door link brackets (A) with the door connector (B).

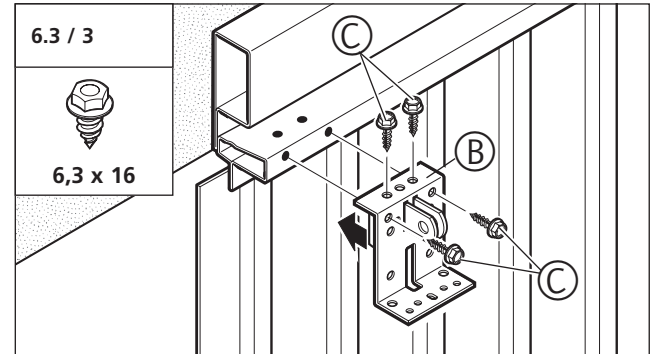


- Locate the door connector position in the middle of the upper edge of the door leaf.

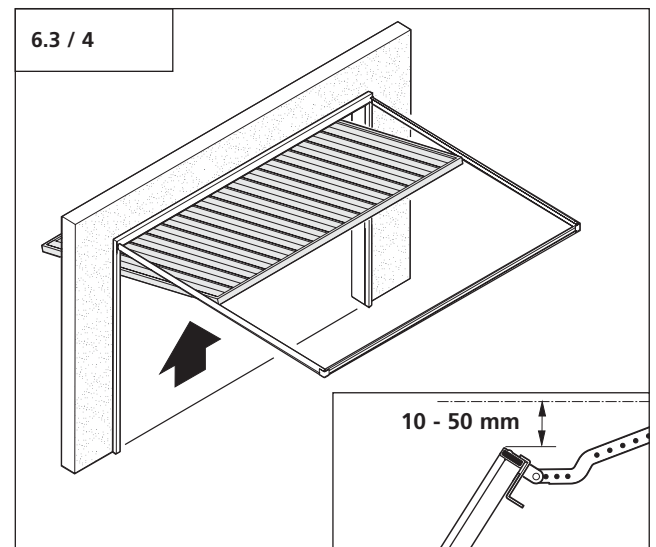


Advice:

If the door connector cannot be positioned in the centre (for doors with centre outside handles and for low ceiling heights), it must be mounted approx. 100 mm left or right from the door centre.



- Drill the necessary holes in the upper edge of the door leaf (\varnothing 5 mm).
- Screw the door connector (B) to the upper edge of the door leaf using 4 screws (C).



- Open the door.
- Determine the highest point that the door reaches during operation.

At the highest point reached by the door, the upper edge of the door leaf must be 10 - 50 mm below the horizontal underside of the drive boom. The drive boom must be mounted parallel to the door booms.

- Close the door.

6. Installation



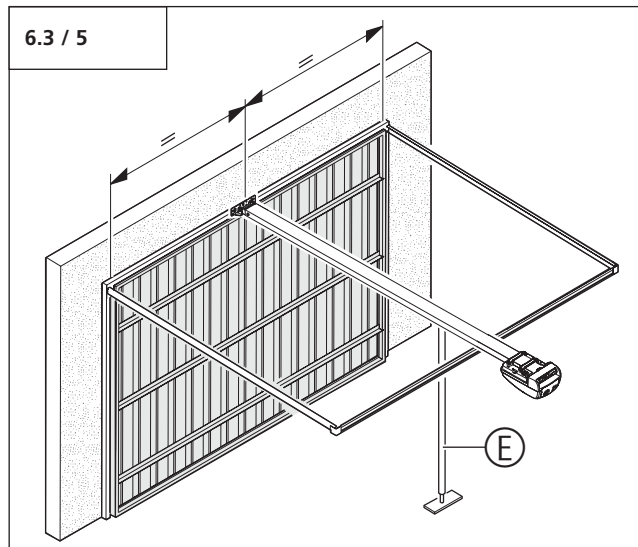
Caution!

The operator system must be prevented from falling (e.g. by using the installation aid (E), Art. No. 66427) before it has been properly fixed.



Attention!

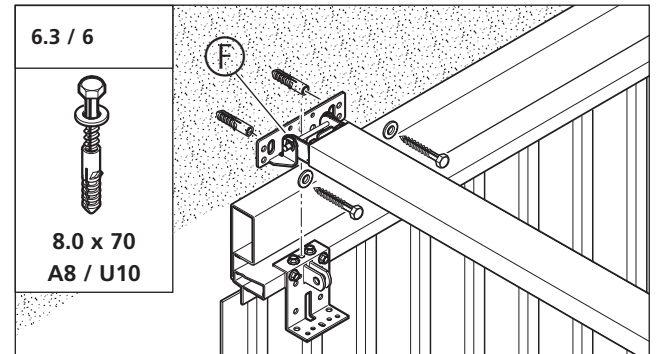
To ensure perfect movement of the door, the lintel joining plate for the drive boom must be mounted at the mid point, above the door connector.



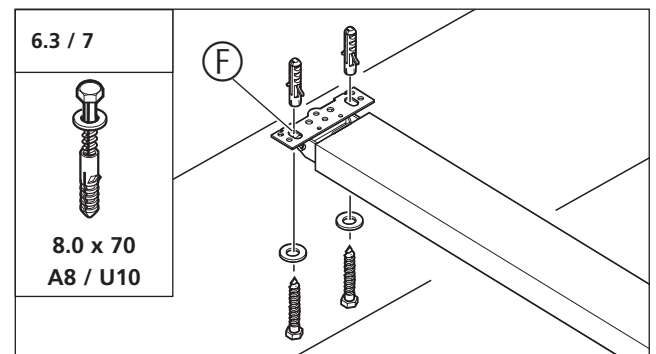
- Position the motor unit with the drive boom at the mid point on the lintel above the door connector.
- Take measures to prevent the operator system from falling before it has been properly fixed.

Depending on the site requirements, there are two installation possibilities for the lintel joining plate (F):

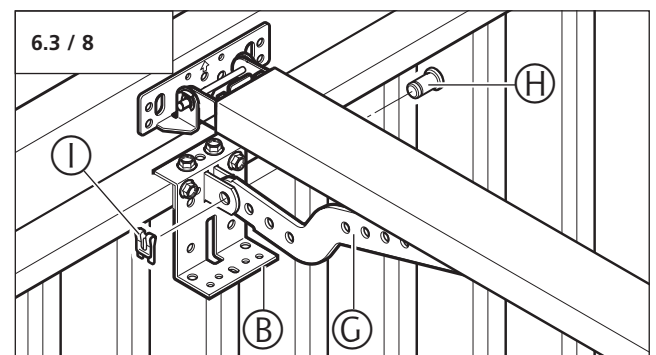
Mounting to the lintel



Mounting to the ceiling



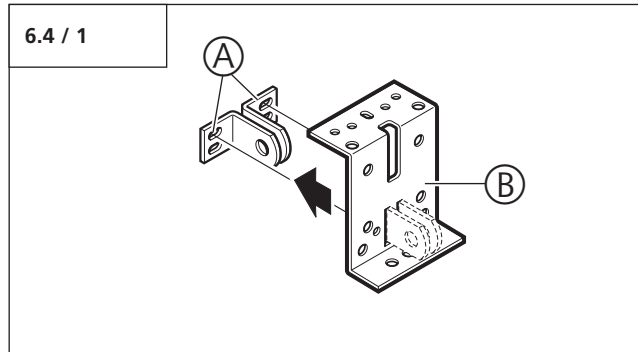
- Fix the lintel joining plate (F) as required for your type of installation.



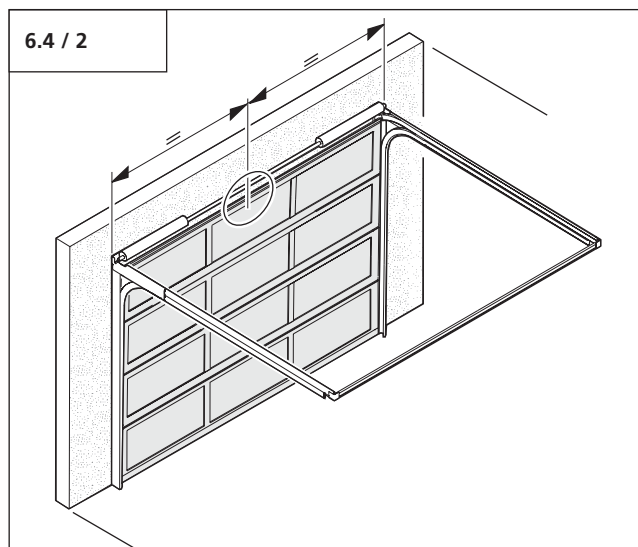
- Push the end of the door link (G) into the door connector (B).
- Secure the door link (G) using the bolt (H) and the SL securing clip (I).

6. Installation

6.4 Installation on sectional doors



- Connect both door link brackets (A) with the door connector (B).

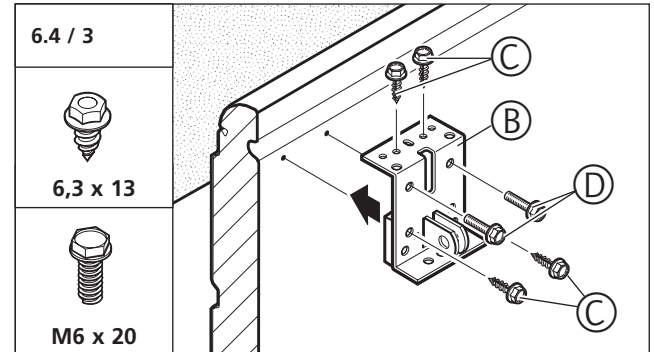


- Locate the door connector position in the middle of the upper edge of the door leaf.

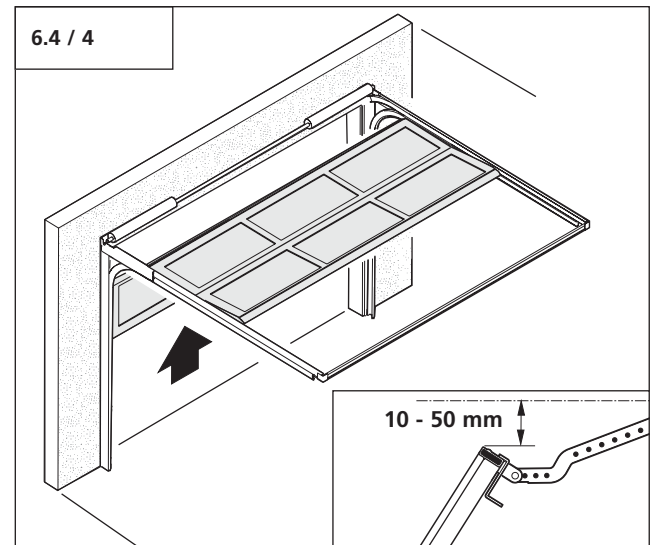


Advice:

- If the door connector cannot be positioned in the centre (for doors with centre outside handles and for low ceiling heights), it must be mounted approx. 100 mm left or right from the door centre.
- For sectional doors with a torsion spring shaft the door connector may be mounted over the total width of the door.



- Drill the necessary holes for the four screws (C) in the upper edge of the door leaf (\varnothing 5 mm).
- Screw the door connector (B) to the upper edge of the door leaf using four screws (C).
- Screw two screws (D) into the door connector until the screw tips touch the door leaf.



- Open the door.
- Determine the highest point that the door reaches during operation.

6. Installation

At the highest point reached by the door, the upper edge of the door leaf must be 10 - 50 mm below the horizontal underside of the drive boom.
The drive boom must be mounted parallel to the door booms.

- Close the door.



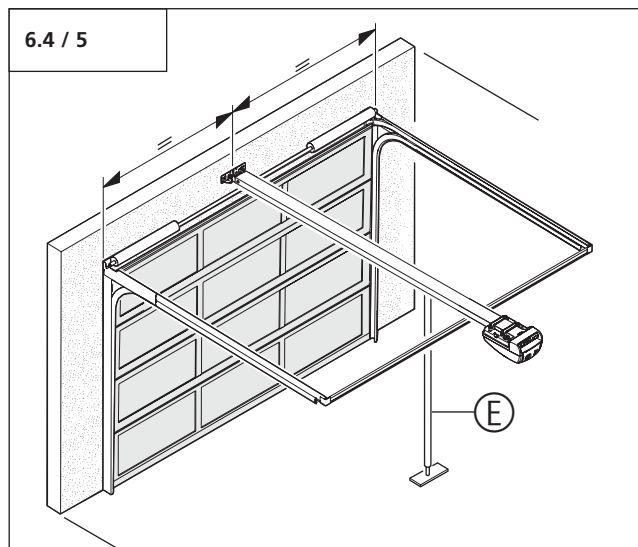
Caution!

The operator system must be prevented from falling (e.g. by using the installation aid (E), Art. No. 66427) before it has been properly fixed.



Attention!

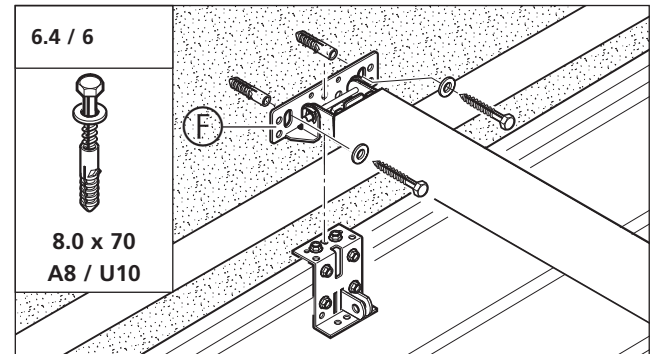
To ensure perfect movement of the door, the lintel joining plate for the drive boom must be mounted at the mid point, above the door connector.



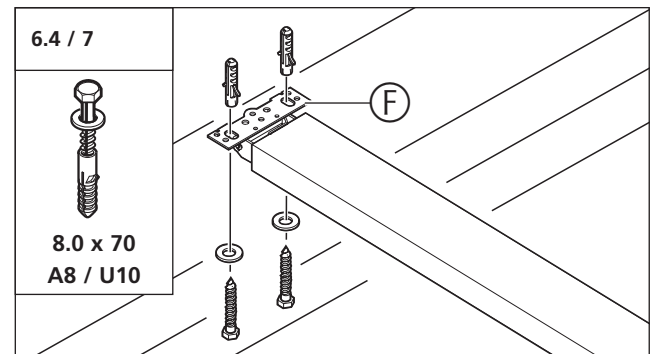
- Position the motor unit with the drive boom at the mid point on the lintel above the door connector.
- Take measures to prevent the operator system from falling before it has been properly fixed.

Depending on the site requirements, there are two installation possibilities for the lintel joining plate (F):

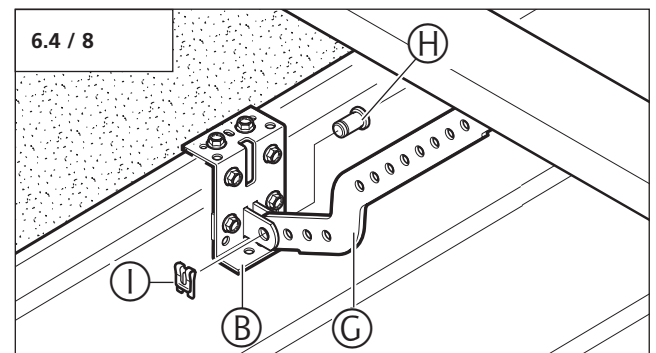
Mounting to the lintel



Mounting to the ceiling



- Fix the lintel joining plate (F) as required for your type of installation.



- Push the end of the door link (G) into the door connector (B).
- Secure the door link (G) using the bolt (H) and the SL securing clip (I).

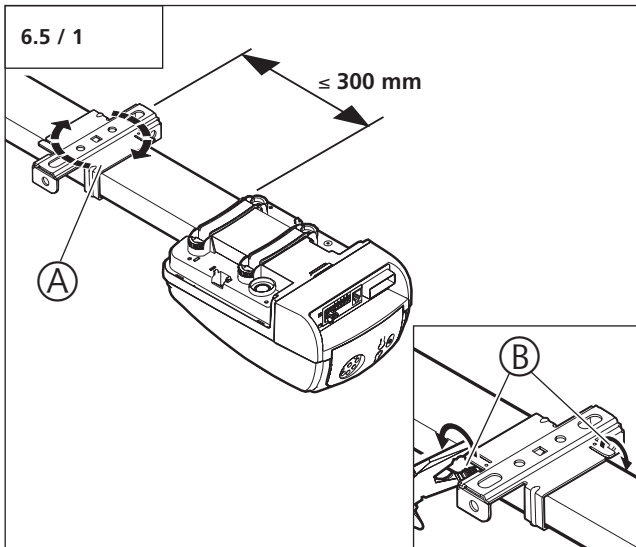
6. Installation

6.5 Ceiling installation of the operator system



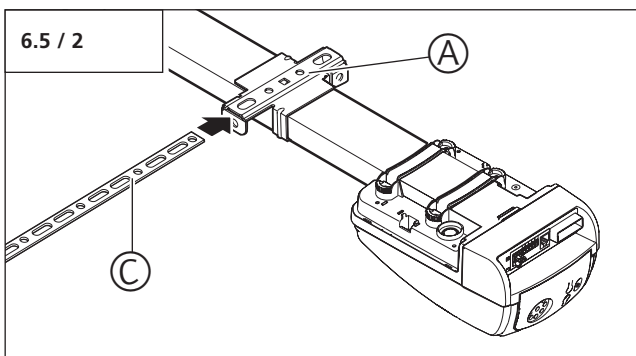
Reference:

If a multi-component boom is used, the relevant installation instructions must be followed.

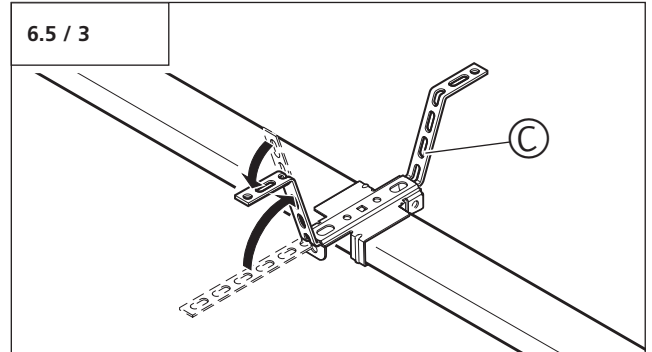


The operator system is fixed to the ceiling with a support plate.

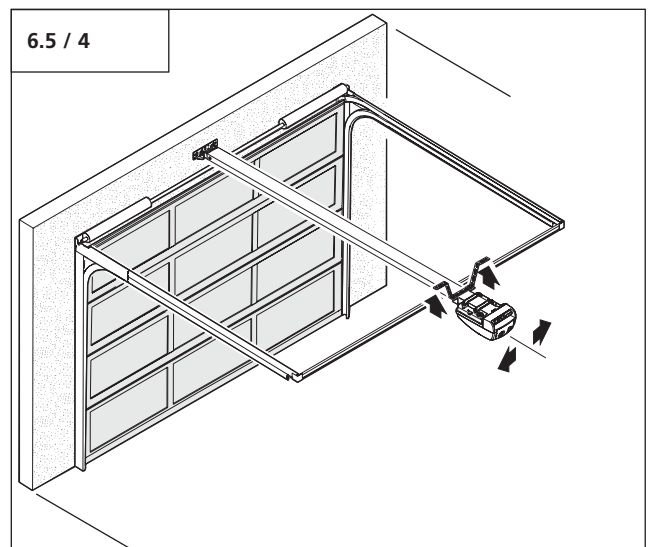
- Mount the suspension clamp (A) on the drive boom.
- Bend down the securing lugs (B).



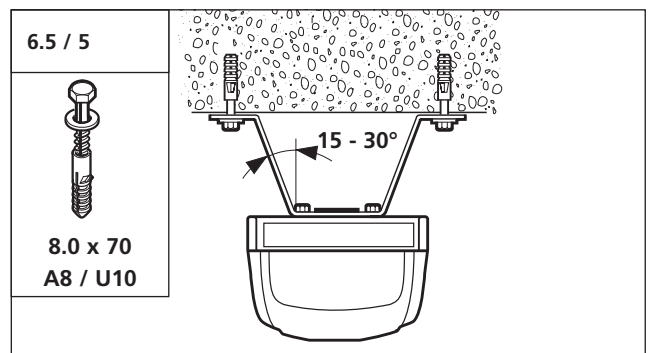
- Slide the support plate (C) through the suspension clamp (A).



- Bend the support plate (C) as required for fixing to the ceiling.



- Align the drive boom so that it is parallel to the door booms.



- Screw the support plate to the ceiling.

6. Installation

6.6 Release



Caution!

Uncontrolled door movements may occur when the release function is activated:

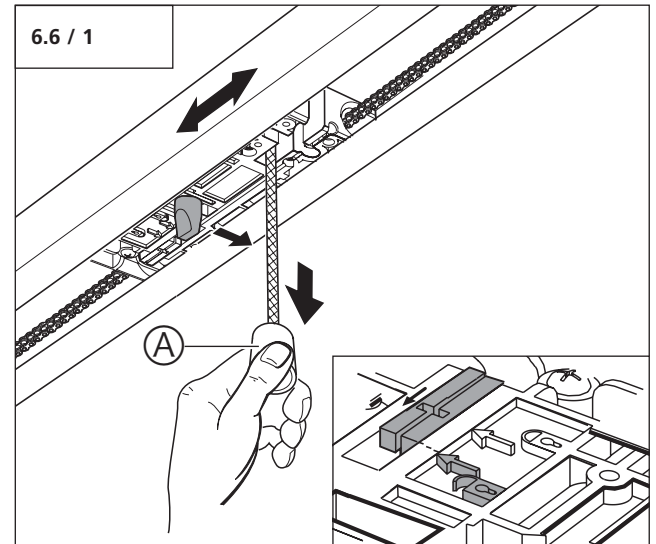
- if the door springs are weak or broken;
- or if the door is not balanced.

When opening the door manually, the carriage can collide with the motor unit.

If the door has been released, it should only be moved at a moderate speed!

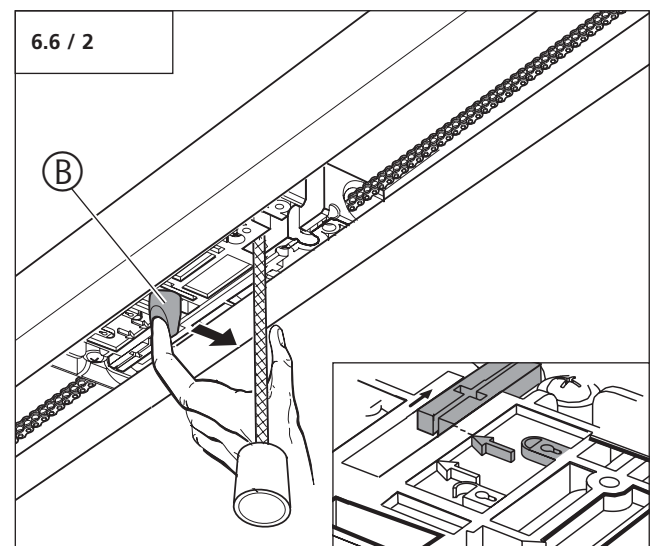
- Construct a physical barrier to limit the extent of the door travel in the opening direction.
- Check that the release pull cord is at a minimum height of 1.8 m.
- Attach the "release warning sign" to the release pull cord.

Releasing



- Pull down the release pull cord (A) as far as it will go in order to release the carriage, thus disconnecting the door from the drive.

Locking



- Slide the red release pin (B) back in the direction indicated by the arrow.
- Start up the operator system in order to reconnect the door with the carriage.

6. Installation

6.7 Connection of control elements



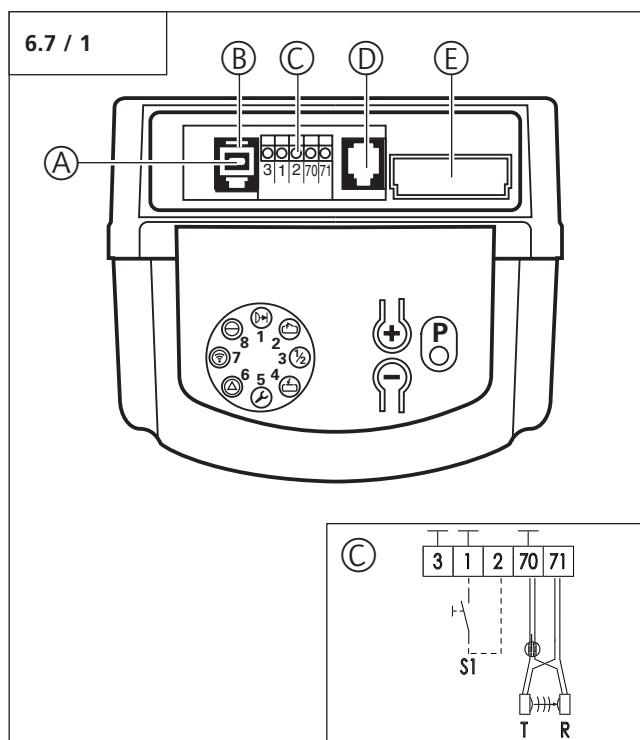
Caution!

Danger of electric shock:
Before any cabling works begin, it must be ensured that the cables are disconnected from the power supply. During cabling works, it must be ensured that the cables remain disconnected from the power supply at all times (e.g. prevent reconnection).



Attention!

To avoid damage to the controls:
- only connect potential-free closing contacts to terminals 1 and 2 (C);
- do not plug the shorting plug (A) into socket (D)!



- A Shorting plug
- B XB10 socket for external control elements
When connecting an element, the shorting plug (A) must be removed.
- C External control elements without system cabling are only to be connected to the following terminals:
 - 1 GND
 - 2 Impulse
 - 3 24 V DC max. 50 mA
 - 70 GND
 - 70 + 71 Two-wire photocell (protection grade IP 65)
- D XP60 Socket for system photocell or adapter cable for module antenna
- E Connection of module antenna
- S1 External impulse button (if applicable)



Advice:

If a two-wire photocell is connected to terminals 70+71, it must be installed before the express programming procedure is carried out. Only then will the photocell be recognised automatically by the controls.



Reference:

- Subsequent programming of the photocell is described in Section 9.4 / Level 8.
- For the installation of external control elements, the relevant installation instructions and the circuit diagram in Section 11.1 must be observed.

7. Hand transmitter

7.1 Operation and accessories

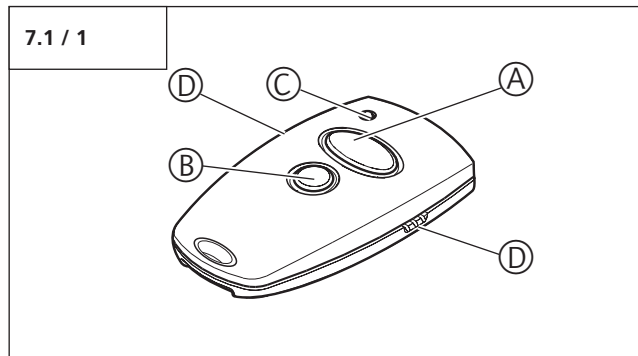


Caution!

Children are not allowed to operate the hand transmitters!

Before operating the hand transmitter, make sure that there are neither persons nor objects in the operating range of the door.

Overview



- A Operating button - large
- B Operating button - small
- C Battery - transmission control light
- D Transmission socket

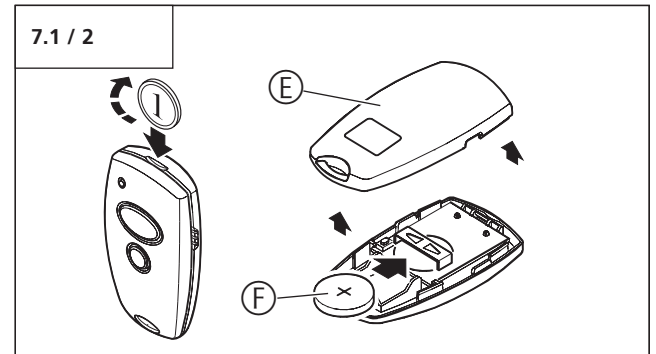
Another operator system can be operated using the second operating button.



Reference:

The procedure for programming hand transmitters (remote controls) to operate the operator system is described in Section 8.5.3.

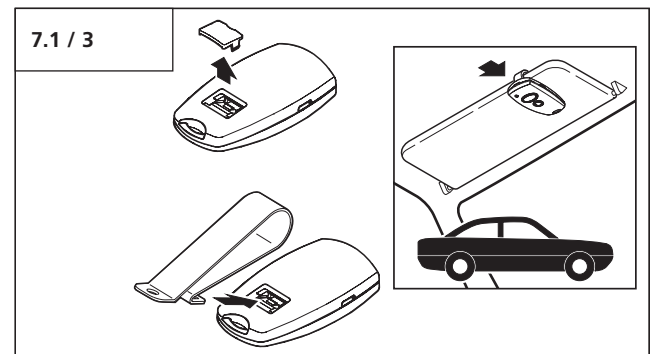
Change batteries



- E Back of hand transmitter
- F Battery 3V CR 2032

- Open the back of the hand transmitter (E), e.g. with a coin.
- Change the battery (F) and observe correct poling.

Accessory



Visor clip, for attaching the hand transmitter to a visor in a car.

7. Hand transmitter

7.2 Hand transmitter coding

7.2.1 Transfer the coding

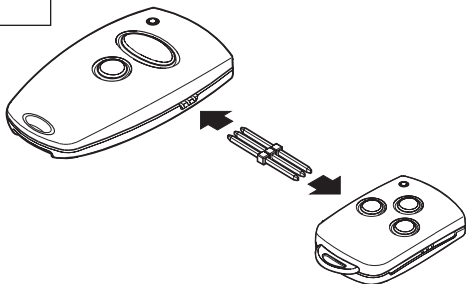
Using this function it is possible to transfer the coding of a hand transmitter that has already been programmed for operating the operator system (master transmitter) to another hand transmitter.



Caution!

Before operating the hand transmitter, ensure that there are neither persons nor objects in the operating range of the door.

7.2.1 / 1



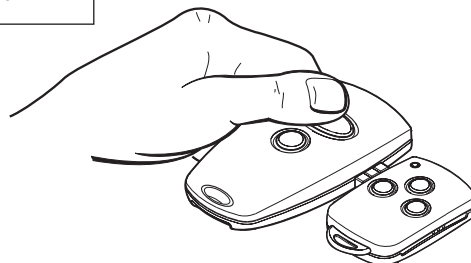
- Connect both transmitters with the enclosed transmission plug.



Advice:

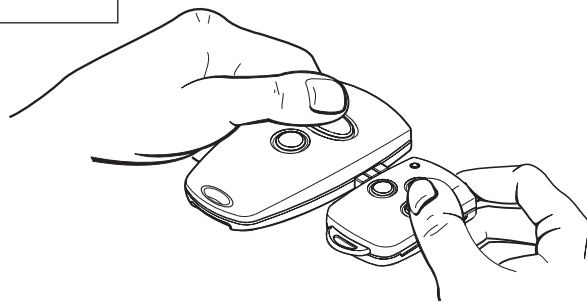
The plug connections on both sides of the hand transmitter are identical.

7.2.1 / 2



- Actuate the master transmitter and hold the button. The transmitter LED lights up.

7.2.1 / 3



- Whilst keeping the button on the master transmitter depressed, press the desired button on the other hand transmitter. The LED flashes.

After 1 -2 seconds, the LED on the newly programmed transmitter lights up permanently. The programming procedure is complete. The coding of the master transmitter has now been transferred to the other hand transmitter.

- Remove the transmission plug.



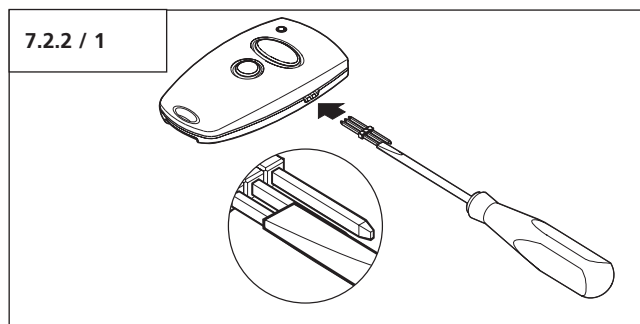
Advice:

For multi-channel hand transmitters, the coding procedure has to be carried out for each button separately.

7. Hand transmitter

7.2.2 Change coding

If a hand transmitter has been lost, this function can be used to change the coding of the remaining remote control transmitters.



- Connect one end of the transmission plug to the hand transmitter.
- At the free end of the transmission plug, short-circuit one of the outer pins with the centre pin adjacent to it (e.g. using a screw driver).
- Press the desired button on the hand transmitter. A new code is then generated by the integrated random coding facility. The LED flashes quickly.

As soon as the LED lights up permanently, the hand transmitter has been programmed with a new code. The button can then be released and the transmission plug removed.



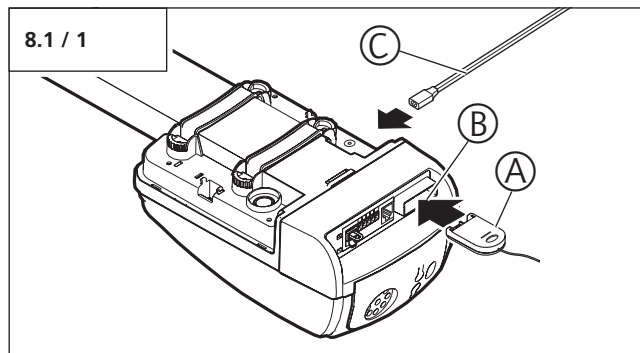
Advice:

After the hand transmitter has been re-programmed, the operator system must also be re-programmed to respond to the new code.

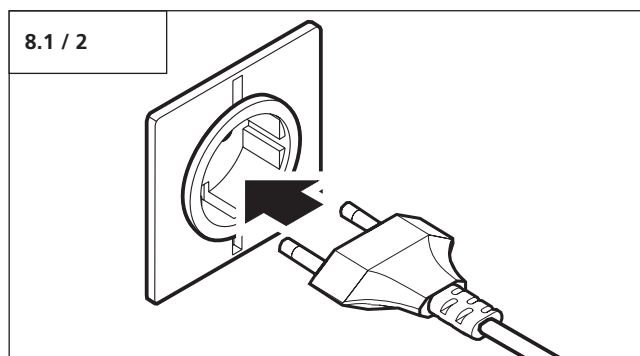
For multi-channel transmitters, the programming process must be carried out for each button separately.

8. Initial operation

8.1 Connecting the operator system



- Insert the module antenna (A) into the antenna opening (B) in the motor unit.
- Plug the mains cable (C) into the motor unit.



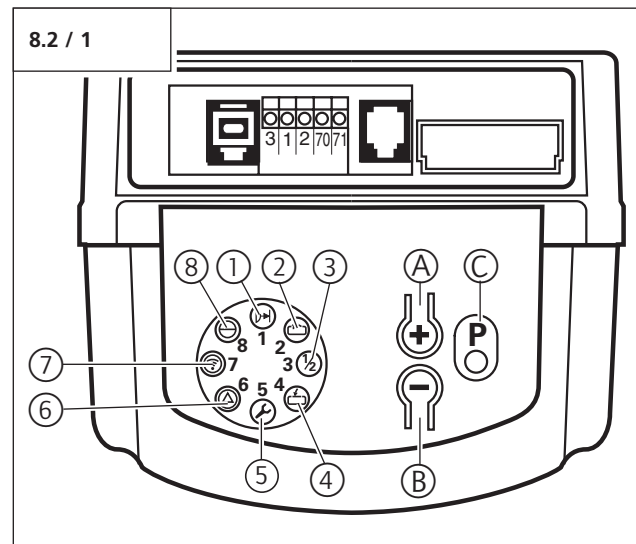
- Connect the mains plug of the motor to the electricity supply.



Advice:

All control lights will be lit up for approx. 3 seconds. LED 8 and 4 will light up afterwards.

8.2 Overview of the control unit



LED displays

- 1 Display for external photocell (lights up only when the photocell is interrupted)
- 2 Display door OPEN position
- 3 Display no function during operation
- 4 Display door CLOSED position
- 5 Display check reference point
- 6 Display malfunction
- 7 Display impulse (remote control)
- 8 Display voltage











Operating elements




- A Button + (e.g. to travel the door to the OPEN position or to increase programme parameter values)
- B Button - (e.g. to travel the door to the CLOSE position or to reduce programme parameter values)
- C Button P (e.g. to enter the programming mode or to save parameters)

8. Initial operation

8.3 Overview of the display functions

LED displays in operating mode

	External photocell interrupted
	Door moving towards OPEN position
	Door in OPEN position
	Door moving towards CLOSED position
	Door in CLOSED position
	Reference point is switched
	Malfunction
	Permanent actuation of an external control element
	Remote control is actuated
	Operating voltage

Legend:	
LED off	○
LED on	●
LED flashes slowly	
LED pulses	
LED flashes quickly	
Factory default setting	
Not possible	–

8.4 Reference point



In operating mode, LED 5 lights up briefly when an object/person passes the reference point.



Advice:

In the factory default setting and after a reset, the controls are set to start in the CLOSED door position. To ensure trouble-free programming, therefore, the door and the operator system must be in the CLOSED end position before resetting or carrying out the express programming procedure.

8. Initial operation

8.5 Express programming

8.5.1 General notes on express programming

**Advice:**

For proper initial operation of the operator system, the express programming procedure must be carried out. This applies for the initial operation and after resetting.

Preconditions

The following conditions must be assured before express programming can commence:

- The door must be in the CLOSED end position.
- The carriage must be connected up.

Express programming

The basic functions of the operator system are set during the express programming procedure.

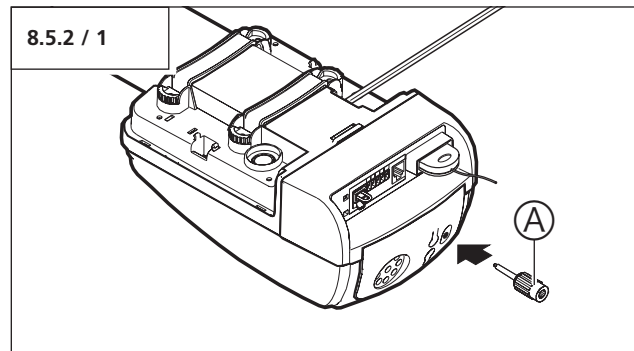
- Door OPEN position
- Door CLOSED position
- Remote control

The programming procedure is a consecutive process. It is essential that this procedure be carried out. After express programming has been completed and a learning run has been carried out to set the automatic cut-out at the OPEN and CLOSED door positions, the operator system is ready for operation.

**Advice:**

When programming the OPEN and CLOSED door positions, the reference point must be passed.

8.5.2 Programming buttons



The programming button P can be pressed using the programming pin (A), which is included in the package.

The controls are programmed using the plus (+), minus (-) and P buttons.

If no buttons are pressed within 120 seconds while in programming mode, the controls revert to operating mode.

A corresponding message is displayed.

**Reference:**

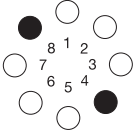

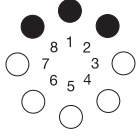

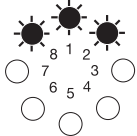
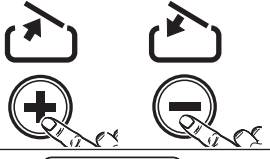
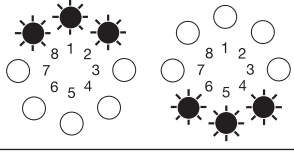

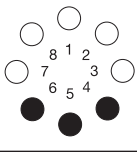

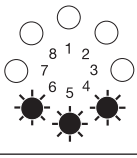
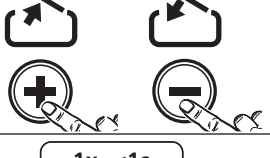
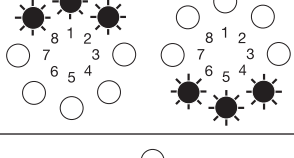

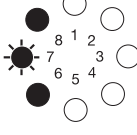

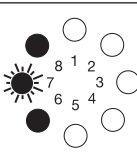

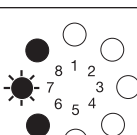

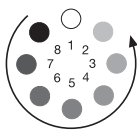
The messages are explained in Section 10.

- Carry out the express programming according to the following procedure.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☼
LED pulses	⚙
LED flashes quickly	☼
Factory default setting	
Not possible	-

8. Initial operation

8.5.3 Express programming sequence

 <p>Operating mode</p>	<p>1x >2s <10s</p> 	<p>Start express programming / Programme the door OPEN end position</p>	
		<p>Drive the door to the OPEN position</p>	
		<p>Correct the OPEN door position using + and -</p>	
	<p>1x <1s</p> 	<p>Programme the door CLOSED end position</p>	
		<p>Drive the door to the CLOSED position</p>	
		<p>Correct the CLOSED door position using + and -</p>	
	<p>1x <1s</p> 	<p>Programme the remote control</p>	
		<p>Press the hand transmitter button</p>	
		<p>Release the hand transmitter button</p>	
	<p>1x <1s</p> 	<p>End express programming</p>	

8. Initial operation

8.6 Function test

8.6.1 Learning run to determine the maximum required driving power



Check:

After express programming and after making changes to the programming menu, the following learning runs and checks must be carried out.

The operator system determines the maximum required driving power during the first two runs after setting the end positions of the door.

- Operate the operator system (with the door coupled) to drive the door once from the CLOSED position to the OPEN position and back to the CLOSED position without interruption.

During this learning run, the operator system determines the maximum push and pull forces and the reserve power required to move the door.

Test:

1.		After pressing the + button: The door must open and travel to the saved OPEN end position.
2.		After pressing the - button: The door must close and travel to the saved CLOSED end position.
3.		After pressing the hand transmitter button: The operator system must move the door in either the OPEN or CLOSE direction.
4.		After pressing the hand transmitter button while the operator system is running: The operator system must stop.
5.		When the button is pressed again, the operator system moves in the opposite direction.

8.6.2 Check the automatic cut-out function



Caution!

The automatic cut-out must be correctly programmed for the CLOSE and OPEN directions to prevent damage to persons or property.

Automatic cut-out towards CLOSED position

- Place a 50 mm high obstacle on the ground.
- Drive the door towards the obstacle.

The operator system must stop and reverse when it hits the object.

Automatic cut-out towards OPEN position

If there are openings in the door wing (opening diameter > 50 mm):

- Place a load weighing 20 kg at the middle of the lower edge of the door

The door must stop after activating the OPEN function.



Advice:

The parameter settings are still saved if the power supply is disconnected. Only a reset causes the driving power settings for the OPEN and CLOSE directions to revert to the factory settings.

9. Extended operator functions

9.1 General notes on extended operator functions

Additional functions can be programmed for the operator system using the extended functions.



Caution!

Important factory default settings can be changed using the extended functions. All the parameters must be set correctly to avoid damage to persons or property.

The programming facility is divided into three areas:

Area 1: Levels

The adjustable functions have been grouped in 8 levels according to the type of function. Each level can have up to 8 menus. The + and - buttons are used to scroll through the selections within the levels. Levels that are not used are displayed but cannot be opened. Levels-Exit switches from programming to operating mode.

Area 2: Menu

Each menu sets one parameter. The + and - buttons are used to scroll through the settings within the menus. Menus that are not in use are skipped over and are not displayed. You can return to the first level via Menu-Exit.

Area 3: Parameters

Each function has a maximum of 16 settings. The + and - buttons are used to scroll through the settings for the adjustable parameters. Parameters that cannot be adjusted are skipped over and not displayed. It is not possible to overshoot by pressing the + and - buttons.

End Programming

The programming session can be ended in two ways:

1. Via Levels-Exit, by pressing the P button. The controls then switch to operating mode.
2. By pressing the P button for longer than 5 seconds at any time and from any area. The controls then switch to operating mode. If a parameter had been changed, it will be saved in the process.

When the programming session ends, all the LEDs light up and then go out one after the other, in sequence from 8 to 1.

If no buttons are pressed within 120 seconds while in programming mode, the controls revert to operating mode.

A corresponding message is displayed.

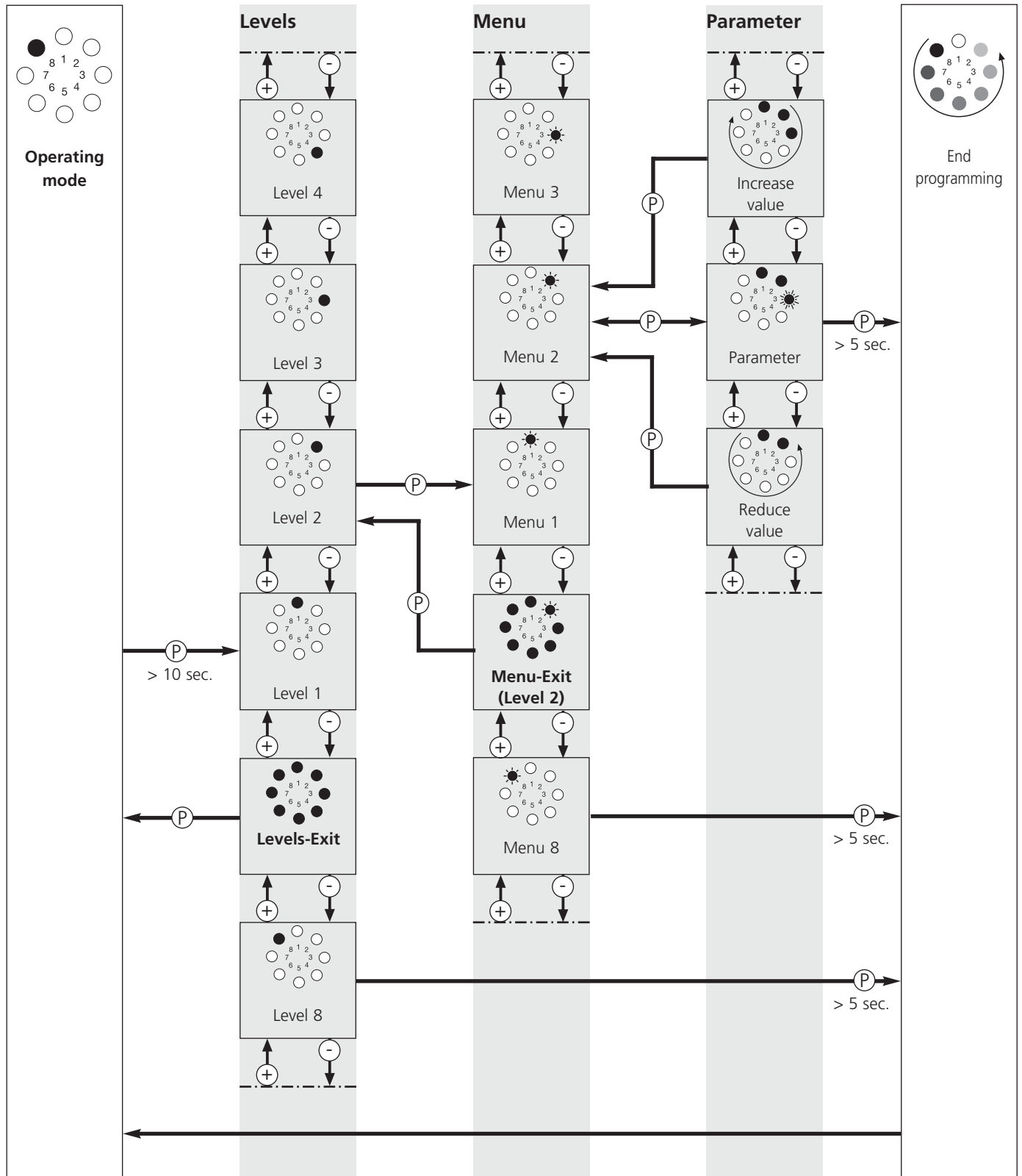


Reference:

- All the available levels and menus are described in the overview of the programmable functions (Section 9.3).
- The messages are explained in Section 10.

9. Extended operator functions

9.2 Programming structure for extended operator functions (Example for Level 2, Menu2)



9. Extended operator functions

9.3 General overview of the programmable functions

Level	Menu	Factory default setting
Level 1 – Basic functions	Menu 5: Soft run position OPEN	–
	Menu 6: Soft run position CLOSE	–
	Menu 8: RESET	–
Level 2 – Operator settings	Menu 1: Required driving power to OPEN	Setting 8
	Menu 2: Required driving power to CLOSE	Setting 8
	Menu 3: Automatic cut-out OPEN	Setting 7
	Menu 4: Automatic cut-out CLOSE	Setting 7
	Menu 5: Speed OPEN	Setting 16
	Menu 6: Speed CLOSE	Setting 16
Level 8 – System settings	Menu 1: Photocell	Operation without photocell

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	⚙
LED flashes quickly	☀
Factory default setting	
Not possible	–

9. Extended operator functions

9.4 Functions overview for the levels

Level 1 - Basic functions																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 5: Soft run position OPEN																
	Set using the + and – buttons.															
Menu 6: Soft run position CLOSE																
	Set using the + and – buttons.															
Menu 8: RESET																
	No	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Reference:

If changes are made in Menus 5 and 6 of Level 1, another learning run must be carried out to determine the maximum driving power. The learning run procedure is described in Section 8.6.1.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	⚙
LED flashes quickly	☀
Factory default setting	
Not possible	-

9. Extended operator functions

Level 2 – Operator settings																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 1: Required driving power to OPEN (sensitivity on a scale from 1 to 16*)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 2: Required driving power to CLOSE (sensitivity on a scale from 1 to 16*)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 3: Automatic cut-out OPEN (sensitivity on a scale from 1 to 16*)																
	OFF	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 4: Automatic cut-out CLOSE (sensitivity on a scale from 1 to 16*)																
	OFF	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 5: Speed OPEN (setting)																
	-	-	-	-	-	-	7	8	9	10	11	12	13	14	15	16
Menu 6: Speed CLOSE (setting)																
	-	-	-	-	-	-	7	8	9	10	11	12	13	14	15	16

*The higher the setting, the higher the driving power.



Caution!

To exclude any risk of injury, Menus 3 and 4 (automatic cut-out) may only be switched off if a photocell barrier or closing edge safety device is installed.



Reference:

If changes are made in Menus 5 and 6 of Level 2, another learning run must be carried out to determine the maximum driving power. The learning run procedure is described in Section 8.6.1.

9. Extended operator functions

Level 8 – System settings																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Menu 1: Photocell																
	A	B	C	D	-	-	-	-	-	-	-	-	-	-	-	-

- A Operation without photocell
- B Operation with system photocell
- C Operation with two-wire photocell (at terminal 70+71)
- D Operation with system and two-wire photocells

10. Messages

10.1 Status messages

In addition to messages regarding the door position, status messages give information regarding the status of the operator system during operation.

Safety elements:



LED 1 serves as a status display and component test facility for the safety elements that are installed (closing edge safety device or photocell).
If a safety element is activated, LED 1 lights up for the duration of its operation.

Control elements / remote controls:



LED 7 serves as a status display and component test facility for the control elements that are installed (OPEN, CLOSED, STOP, half OPEN, etc.).
If an element is activated, LED 7 lights up until the button is released.



If a remote signal is received, LED 7 flashes quickly.

Legend:	
LED off	○
LED on	●
LED flashes slowly	☀
LED pulses	☀
LED flashes quickly	☀
Factory default setting	
Not possible	–

10.2 Fault messages

Messages that report faults in the system are displayed in the operating mode as a corresponding message number.

1.		The LED FAULT (6) flashes regularly.	
2.	1x <1s 	Display the message number: Press P once (example: Message 15).	



Advice:

- The controls show the message numbers via one or more rhythmically flashing LEDs.
The message number is found by adding together the numbers next to the flashing LEDs.
- During programming, all status messages and/or other messages are suppressed. This ensures that all displays in the programming mode are unambiguous.

The message numbers serve two purposes:

1. They indicate why the controls were unable to carry out the drive command given.
2. They indicate which components are faulty. This facilitates better and faster service on site, and only the control components identified as being faulty need be replaced.

10. Messages

10.3 Rectifying faults

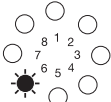
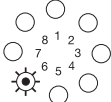
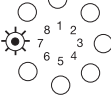
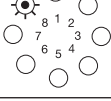
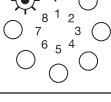
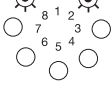
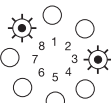
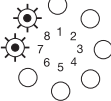

10.3.1 Malfunctions without error messages

Error	Cause	Solution
LED 8 does not light up.	- No voltage.	- Check that the mains power supply is operational. - Check the connection to the mains power supply.
	- Thermal overload protection in power transformer was activated.	- Allow the power transformer to cool down.
	- Defective control unit.	- Have the operator system checked.
No reaction on impulse.	- The connection terminals for the "impulse" button were by-passed, e.g. due to a short-circuit or flattened terminals.	- Try temporarily disconnecting any key switches or interior push buttons that are connected to the control unit (Section 6.7): remove the cable from socket XB10, insert the shorting plug (C) and look for cabling errors.
No reaction on impulse from hand transmitter.	- Module antenna is not plugged in.	- Connect the module antenna to the control unit (Section 8.1).
	- The hand transmitter coding does not correspond to the receiver coding.	- Check coding (Section 8.5.3). - Activate hand transmitter again (Section 8.5.3).
	- Hand transmitter battery is empty.	- Insert new 3V CR 2032 battery (Section 7.1).
	- Defective hand transmitter, control unit electronics or module antenna.	- Have all 3 components checked.

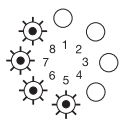
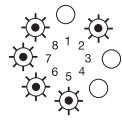
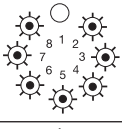
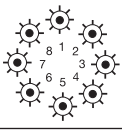
Legend:	
LED off	○
LED on	●
LED flashes slowly	☼
LED pulses	⚙
LED flashes quickly	☼
Factory default setting	
Not possible	-

10. Messages

10.3.2 Malfunctions with error messages

Error	Cause	Solution
LED 6 flashes regularly.		A fault has occurred. Give the P button a short press and one or more LEDs will flash irregularly. The fault number can be found by adding together the numbers next to the flashing LEDs.
Message 6		- External photocell interrupted. - Remove obstacle.
Message 7		- If no buttons are pressed within 120 seconds, the programming mode terminates automatically. - OPEN and CLOSED door positions programmed without passing the reference point.
Message 8		- Defective reference point switch. - Have the operator system checked.
Message 9		- Defective RPM sensor / operator system blocked. - Have the operator system checked.
Message 10		- Door movement too stiff. - Door blocked. - Ensure that the door moves easily.
		- Maximum driving power setting is too low. - Have the max. driving power (Section 9.4 / Level 2 / Menu 1+2) checked by an expert.
Message 11		- Excess travel stop. - Have the operator system checked.
Message 15		- External photocell interrupted or defective. - Remove obstacle or have the photocell checked.
		- Programmed for photocell, but no photocell is connected. - Deactivate or connect the photocell.
Message 16		- Power sensor for the automatic cut-out is defective. - Have the motor unit checked.

10. Messages

Error	Cause	Solution
Message 26 	<ul style="list-style-type: none"> - Undervoltage, operator system overloaded at maximum power setting, 16. - Operator system overloaded. 	<ul style="list-style-type: none"> - Have the external power supply checked.
Message 28 	<ul style="list-style-type: none"> - Door movement too stiff or irregular. - Door blocked. 	<ul style="list-style-type: none"> - Check the path of the door and ensure that the door moves easily.
	<ul style="list-style-type: none"> - Automatic cut-out is set to be too sensitive. 	<ul style="list-style-type: none"> - Have the automatic cut-out facility checked by an expert (Section 9.4 / Level 2 / Menu 3+4).
Message 35 	<ul style="list-style-type: none"> - Electronics are defective. 	<ul style="list-style-type: none"> - Have the operator system checked.
Message 36 	<ul style="list-style-type: none"> - Shorting plug removed, although a stop button is not connected. - Closed circuit is interrupted. 	<ul style="list-style-type: none"> - Connect stop button or insert shorting plug (Section 6.7).

Legend:	
LED off	○
LED on	●
LED flashes slowly	⊙
LED pulses	⊙
LED flashes quickly	⊙
Factory default setting	
Not possible	-

11. Attachment

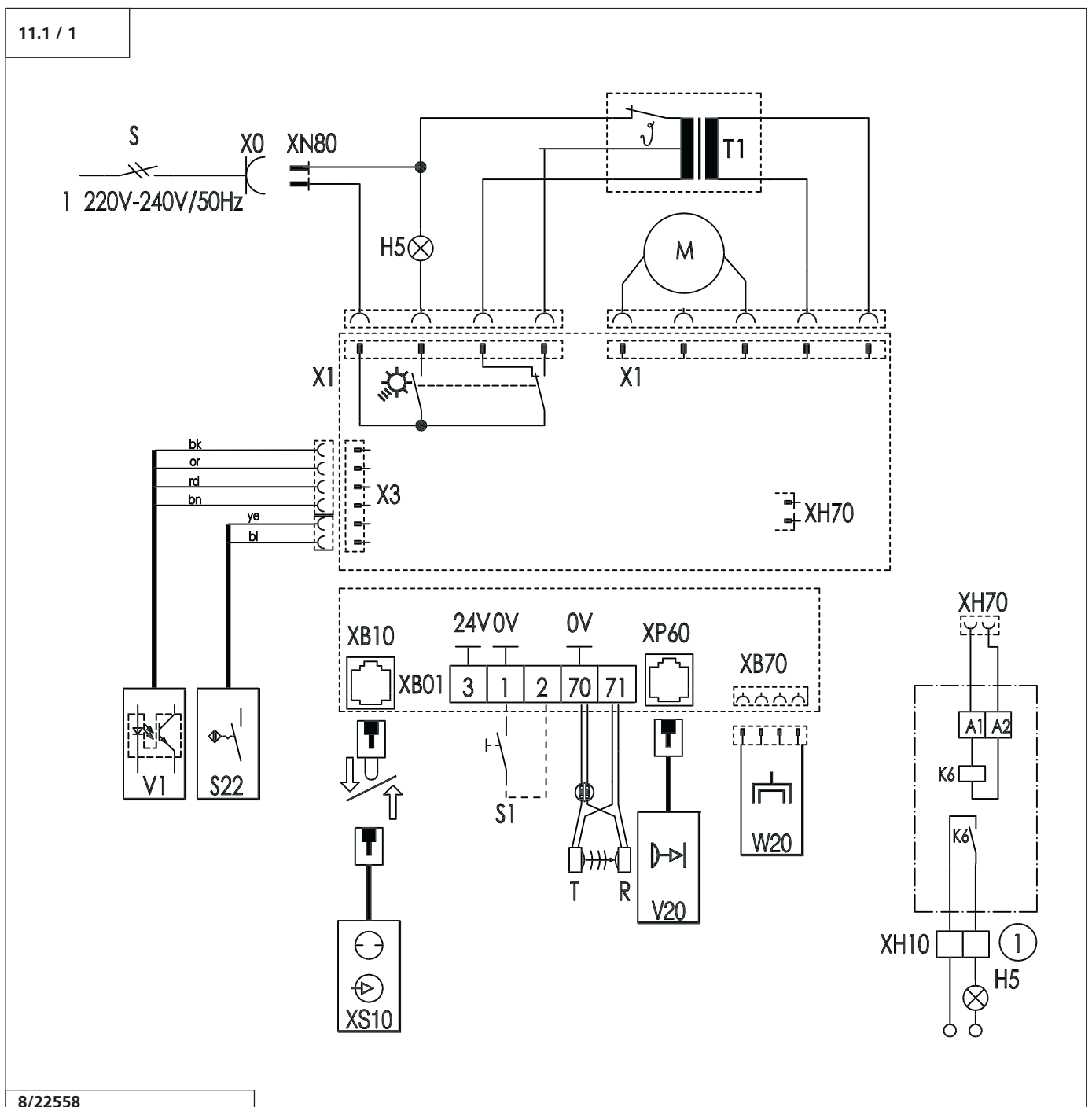
11.1 Circuit diagram Comfort 211



Attention!

In order to avoid damage, the following points must be observed:

- The local safety regulations must be observed at all times.
- Always lay mains and control cables separately.
- The control voltage is 24 V DC.
- Applying external voltages to sockets XB10 und XP60 or connecting terminals XB01 will completely destroy the electronics.



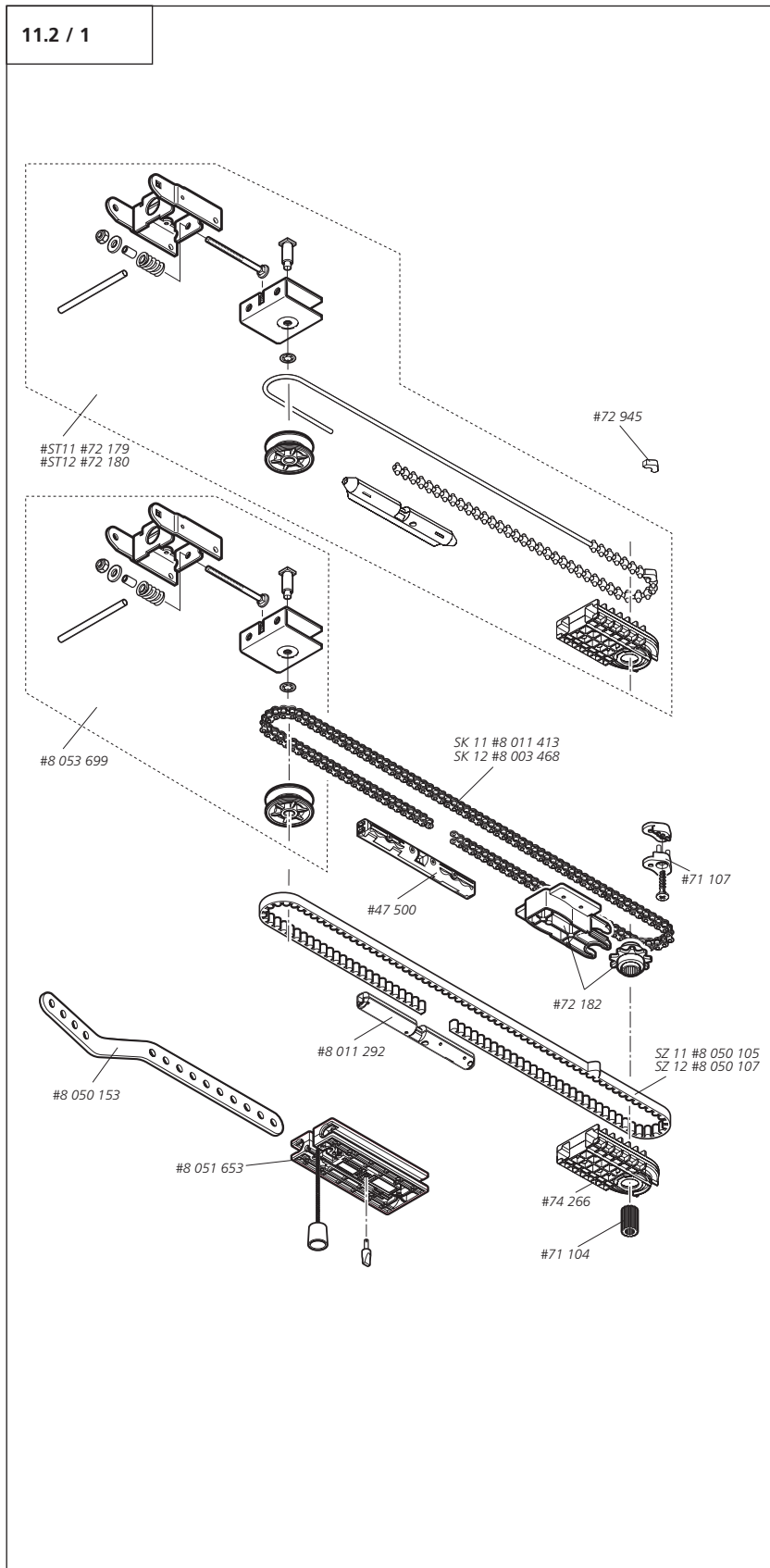
11. Attachment

Legend circuit diagram

Label	Description
H5	Signal light (250 V, 60 W max. – if installed)
K6	Relay on signal-light relay board
M	Motor
R	Receiver for two-wire photocell
S	Main isolator switch or “Emergency Off” button (external)
S1	“Impulse” button (external - if installed)
S22	Reference point sensor
T	Transmitter for the two-wire photocell
T1	Transformer
V1	RPM sensor
V20	System photocell (if installed)
W20	Module antenna
X0	Safety socket (external)
X1	Socket for motor connection
X1B70	Socket for module antenna
X2	Socket for lighting
X3	Socket for RPM sensor / reference point switch
X4	Socket / plug for LED lighting
X8	Connection for signal light relay (if installed)
XB01	Terminals for “Impulse” button / 24 V / “two-wire photocell”
XB10	Socket for control elements
XH70	Socket / plug for signal light relay (if installed)
XH84A	Socket for drive lighting (if installed)
XH84B	Socket for drive lighting (if installed)
XN80	Socket for mains power plug
XS10	Control elements (if installed)
XP60	Socket for “system photocell”
①	Signal light relay retrofit kit (if installed)
⊖	Thermal overload protection in power transformer

11. Attachment

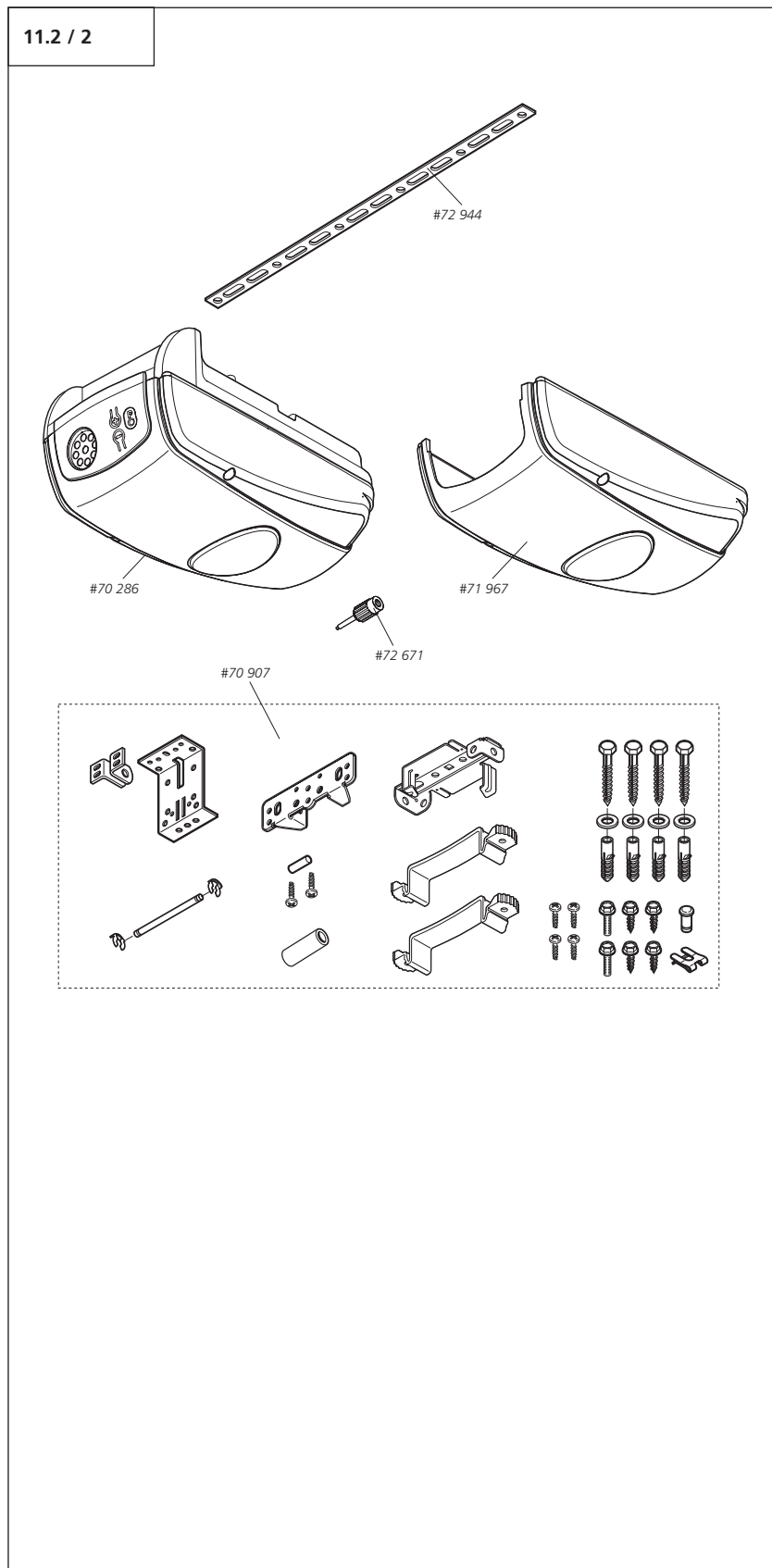
11.2 Comfort 211 replacement parts overview



Replacement parts legend 11.2/1

Art. No.	Description
72179	Ball chain replacement set ST-11
72180	Ball chain replacement set ST-12
72945	Ball chain control cam (pack of 5)
8053699	Deflection / drive boom
8011413	Drive chain SK-11
8003468	Drive chain SK-12
71107	Chain limit switch activator (pack of 5)
47500	Chain connection set
72182	Drive unit SK
8050105	Toothed drive belt SZ-11
8050107	Toothed drive belt SZ-12
8011292	Toothed drive belt connection set
74266	Drive unit SZ
71104	Adapter sleeve (pack of 5)
8050153	Door link
8051653	Carriage

11. Attachment



Replacement parts legend 11.2/2

Art.-No.	Description
70286	Comfort 211 motor unit
71967	Motor cover for Comfort 211 with transparent light panel
72944	Support plates (pack of 5)
70907	Bag of accessories for Comfort 211
72671	Programming pins (pack of 10)

11. Attachment

11.3 Technical Data for Comfort 211

Electrical data

- Nominal voltage	230 V
- Nominal frequency	50 Hz
- Power consumption	0.7 A
- Power input - operation	0.16 KW
- Power input - stand-by	approx. 4 W
- Operating mode (operating time)	KB 2 Min.
- Control voltage	24 V DC
- Protection category, motor unit	IP 20
- Protection class	II

Mechanical data

- Max. push and pull force	450 N
- Nominal force	150 N
- Travel speed	140 mm/sec.
- Opening time (door specific)	approx. 15 sec.

General data

- Motor unit dimensions	140x160x280 mm
- Weight	3.00 kg
- Temperature range	-20 to +60 °C

Supply package

- Comfort 211 motor unit
with integrated electronic control unit
- Multibit remote control, 868 MHz,
including Digital 302 mini hand transmitter,
2-channel

Features / Safety functions

- Reference point technology
- Soft-Start / Soft-Stop
- Delay safety device
- Automatic cut-out
- Blocking protection
- Undervoltage protection
- Excess travel stop
- Electronic travel cut-out
- Connection for pushbuttons, code buttons and key
switches
- Connection possibility for 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



11. Attachment

11.4 Manufacturer's Declaration

We hereby declare that the product sold by us and mentioned below corresponds in its design, construction and version to the relevant and basic health and safety 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: Comfort 211

Relevant EC Regulations:

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



08.02.2006

pp J. Hörmann

11.5 EC Declaration of Conformity

We hereby declare that the product sold by us and mentioned below corresponds in its design, construction and version to the relevant and basic health and safety requirements of the following EC regulations: EMC Directive, Machinery Directive and Low Voltage Directive.
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Product:

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- EC EMC Directive (89/336/EWG),
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EN 60335-2-95
EN 12445
EN 12453
EN 300220-1
EN 301489-3
ETS 300683

Date / Signature

Marantec Antriebs- und Steuerungstechnik GmbH & Co. KG
Remser Brook 11 · 33428 Marienfeld · Germany

Tel +49 (52 47) 7 05-0

English

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Subject to changes which are in the interest of technical improvements.