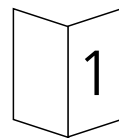


Comfort 220

Operator System for Garages



Supplement to the Installation Instructions

GB

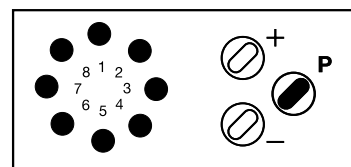


1 Summary on display functions

During normal operation the display shows following door situations:

Display functions

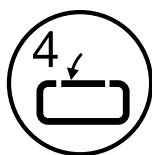
After having switched on the power supply the control unit carries out a self-test (for approx. 2 sec. all LED's are on).



Display of door situations:



Door in end position OPEN



Door in end position CLOSED



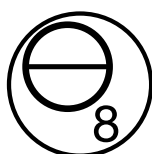
Door passes the reference point



Malfunction, current error message



Remote control is actuated



Button is actuated



Operating voltage

2 Basic functions of the operator

Programming sequence:

- Press button $\text{\textcircled{P}}$ for approx. 2 sec. and release it.

The control unit changes from operating state to the programming state of the basic functions.

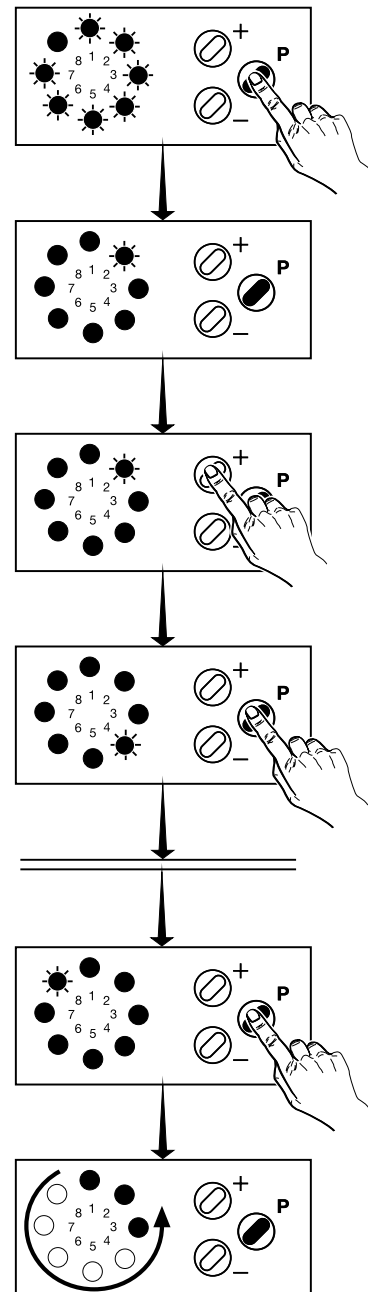
LED 2 flashes and all others are on.

Changes in programming menu are carried out by pressing the buttons \oplus or \ominus . The current values are saved with button $\text{\textcircled{P}}$.


The control unit changes to the next programming menu.


If the button $\text{\textcircled{P}}$ is pressed and no changes via buttons \oplus or \ominus have been carried out, the respective programming menu is skipped and the settings remain unchanged.

After the last programming menu the programming of the operator basic functions is terminated, recognizable by all LED's going off in the sequence 8 - 1.



General advice regarding the programming of control unit

 **Advice regarding programming:**
If the control unit is in programming mode and none of the three programming buttons (\oplus , \ominus , \textcircled{P}) is pressed during a time period of 120 sec., the programming procedure is cancelled and the control unit changes to operating mode).

 **Advice:**
The end positions can only be programmed if there is a valid reference point. For this travel the door electrically once to open or close position.


Display of the reference point



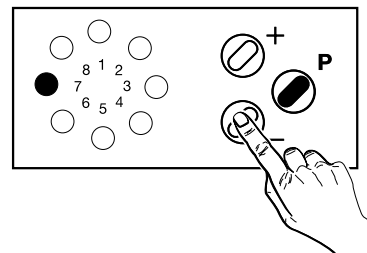
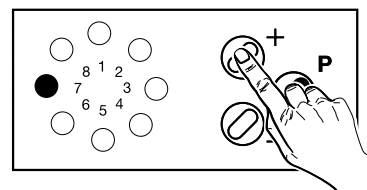
The operator **passes** the reference point sensor:

- LED 5 shortly glows up.

Set the positions

 **Advice:**
The control unit works without press-and-hold!

- Press button \oplus or \ominus to travel the door to the desired door position.



3 Programming of the basic level

1. Programming of 'end position OPEN'

- Press button \textcircled{P} for approx. 2 sec. and then release it.

LED 2 is flashing and all others are on.

- Press button \oplus to set the end position OPEN. Carry out the fine adjustment with button \oplus or \ominus .

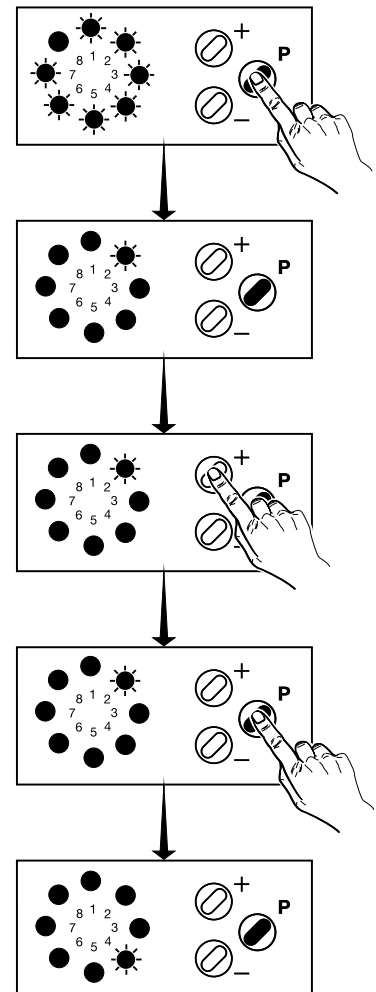
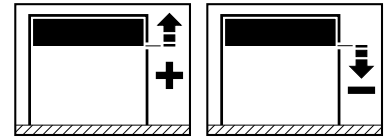


Advice:

The reference point has to be passed 1x!

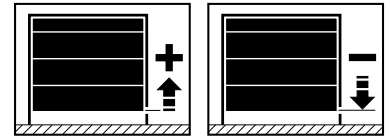
- Save the end positions with button \textcircled{P} .

The control unit changes automatically to the programming of 'end position CLOSE'.



Display functions and programming possibilities

2. Programming of the 'end position CLOSE'



LED 4 is flashing and all others are on:

- Press button \ominus to set the end position CLOSE. Carry out the fine adjustment with button \oplus or \ominus .

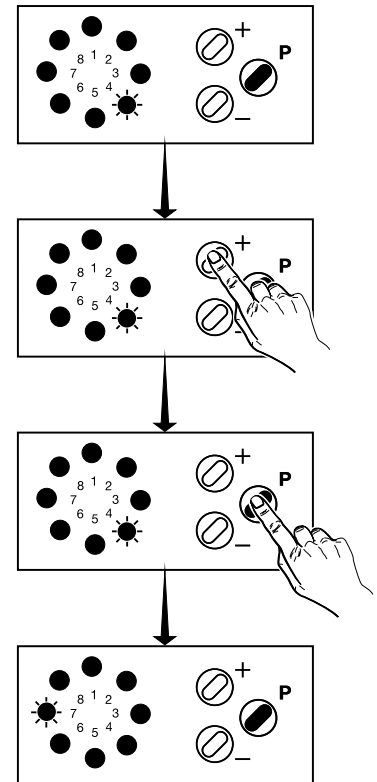


Advice:

The reference point has to be passed 1x!

- Save the end position with button \textcircled{P} .



The control unit changes automatically to the programming of 'remote control'.



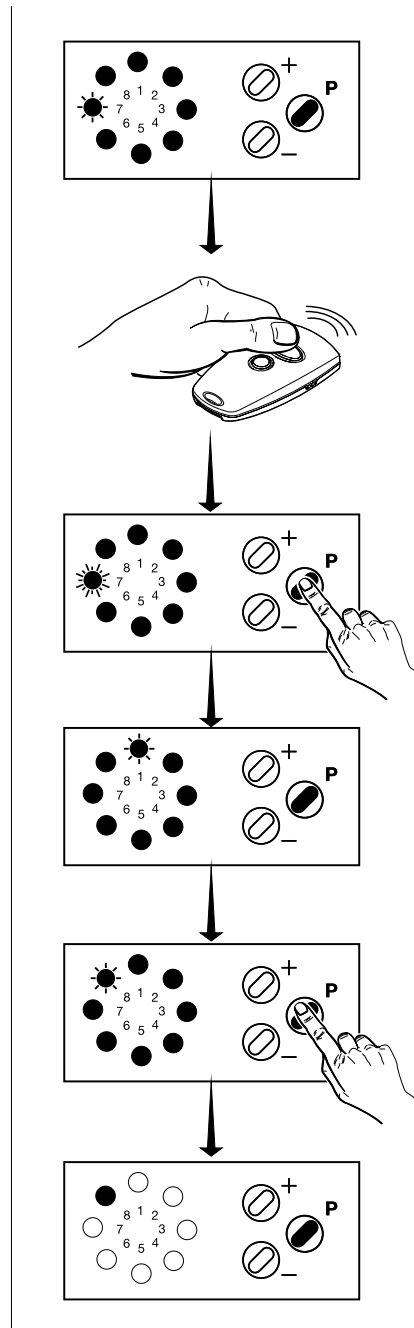
Display functions and programming possibilities

3. Programming of remote control

LED 7 is flashing and all others are on.

- Actuate the respective button on the hand transmitter until LED 7 is flashing quickly. The control unit has now learned the code of the hand transmitter.
- Press button  to save the code of the remote control.
- Press again button  to terminate the programming.

The control unit is now in operating mode (in case of power failure all settings remain unchanged).





Advice:

All menus can be reset by a RESET function to the original values set by factory. For this carry out the steps described in the point 'Programming of the basic level'. After the remote control has been saved, the control unit changes to the programming menu 'RESET factory settings'.

4. Programming 'RESET factory settings'

LED 8 is flashing and all others are on:

- Press button \oplus or \ominus to go to function 'reset'.

LED 1 is flashing quickly; function '**no reset**' is selected.

All programmed values remain unchanged.

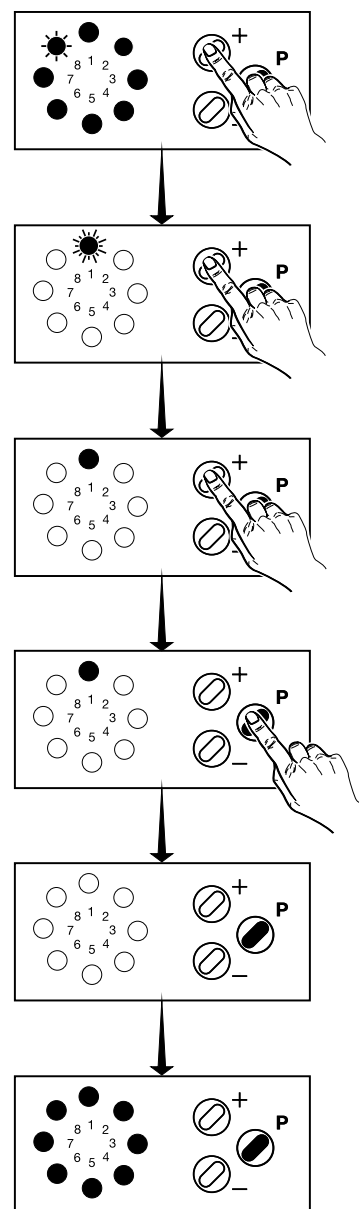
LED 1 is on; function '**reset**' is selected.

All programmed values are overwritten by the values set from factory.

- Press button \textcircled{P} to confirm reset function.

When 'reset' has been selected, the control unit carries out a new start, recognizable by all LED's glowing for 2 sec.

The control unit is now in operation mode (settings from factory), in case of power failure all settings remain unchanged.



Display functions and programming possibilities

Learning of drive power:



Attention!

If the operator cuts out during the test run and LED 8 and LED 2 are flashing quickly (error number 10 / automatic cut-out):

- Set the automatic cut-out
- For this look up point 2:
Programming 2nd level, point 2 + 3.

- Travel the operator (with door engaged) completely and without interruption two times from door position 'DOOR CLOSED' to door position 'DOOR OPENED' and vice versa.

During these two learning travels the operator determines the maximum push and pull force which is required to move the door. After two further complete door travels the operator is definitely ready for operation.

These settings remain unchanged even if power supply is interrupted, but they can, nevertheless, if necessary, be changed as described before.

Test:

- Press button ⊕.
-> The door must open and travel to the 'door open' position, that has been set by you.
- Press button ⊖.
-> The door must close and travel to the 'door closed' position, that has been set by you.
- Shortly press the button on your hand transmitter.
-> The operator moves the door to 'OPEN' resp. 'CLOSE' direction.
- Press the button on your hand transmitter again during the operator run.
-> The operator must stop

The next push onto the button causes the operator to run in the opposite direction.

4 Extended operator functions (2nd programming level)



Advice:

The values for the automatic cut-out (= max. force) and learning power limit (= power curve) can be set manually in the 2nd 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.

Display functions and programming possibilities



Advice:

Changes in the programming levels of the extended operator functions may only be carried out by specialists!

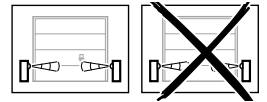
Explanation of the extended operator functions:

Functions	Explanation	Settings from factory
Menu 1: - programming external photocell	Setting whether the operator is run with or without photocell.	no photocell existing
Menu 2: - power limit OPEN	The sensitivity of power limit can be set in steps from 1 - 16.	step 10
Menu 3: - power limit CLOSE	The sensitivity of power limit can be set in steps from 1 - 16.	step 10
Menu 4: - offset learned power limit	The sensitivity of power limit can be set in steps from 2 - 16.	step 13
Menu 5: - operator speed	The speed the door is moved by the operator can be set	step 16 (max. speed)

Display functions and programming possibilities



1. Programming of external photocell

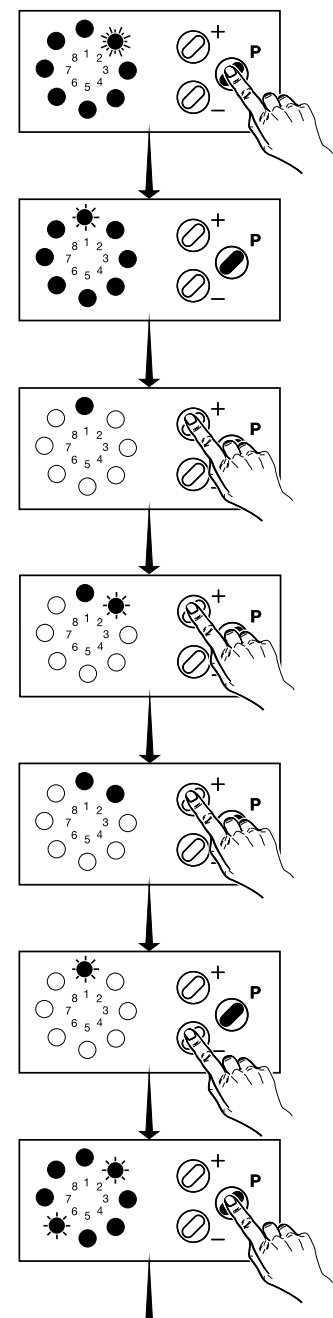


Advice:

Still hold the programming button $\text{\textcircled{P}}$ when LED 2 starts to flash after 2 sec. In order to come to the 2nd programming level, hold programming button $\text{\textcircled{P}}$ for further 8 sec. (LED 2 is then flashing quickly).

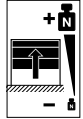
- Press button $\text{\textcircled{P}}$ for more than 10 sec, until LED 2 flashes quickly.
- Release button $\text{\textcircled{P}}$. LED 1 flashes.
- Press button $\text{\textcircled{+}}$ to make a connection of external photocells possible.
 - LED 1 is on:
Operation with system photocell
 - LED 1 is on, LED 2 is flashing:
Operation with 2-wire photocell
 - LED's 1 and 2 are on:
Operation with system and 2-wire photocell
- When pressing button $\text{\textcircled{-}}$ the operator can be run without external photocell:
 - LED 1 is flashing.
- Save your setting with programming button $\text{\textcircled{P}}$.

The control unit changes automatically to the programming procedure 'automatic cut-out OPEN'.





2. Programming 'automatic cut-out OPEN'



Attention!

The automatic cut-out is set automatically.
Only change it if necessary (error No. 10)

When increasing the set value the max. force in OPEN direction is increased and thus the sensitivity of the automatic cut-out is reduced.

Attention!

Always test the max. allowed operating forces according to EN 12445 and EN 12453!



Advice:

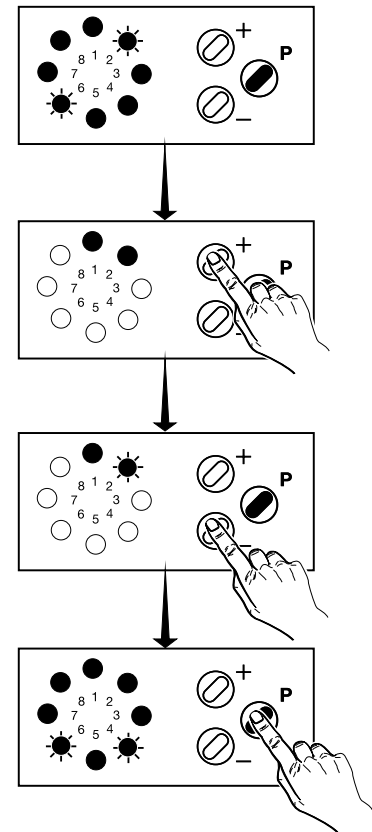
The setting of the automatic cut-out corresponds to the maximum power of the operator. At the first travel to OPEN or CLOSE direction after 'POWER ON' the automatic cut-out is effective according to the adjustment. For further travels the self-learned power, that is more sensitive, is effective. The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

Display functions and programming possibilities

LED's 2 and 6 are flashing.

- With button \oplus or \ominus the 'automatic cut-out' can be set in steps from 1 (most sensitive value) to 16 (according to table).
- Save your setting with programming button \textcircled{P} .

The control unit changes automatically to programming of 'automatic cut-out CLOSE'.



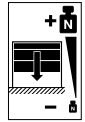
Advice!

When re-programming the end positions (1st programming level) the pull 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.



3. Programming 'automatic cut-out CLOSE'



Attention!

The automatic cut-out is set automatically.
Only change it if necessary (error No. 10)

When increasing the set value the max. force in CLOSE direction is increased and thus the sensitivity of the automatic cut-out is reduced.

Attention!

Always test the max. allowed operating forces according to EN 12445 and EN 12453!



Advice:

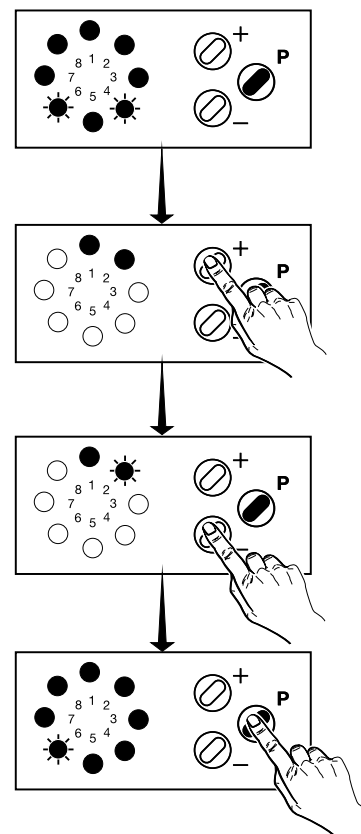
The setting of the automatic cut-out corresponds to the maximum power of the operator. At the first travel to OPEN or CLOSE direction after 'POWER ON' the automatic cut-out is effective according to the adjustment. For further travels the self-learned power, that is more sensitive, is effective. The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

Display functions and programming possibilities

LED's 4 and 6 are flashing.

- With button \oplus or \ominus the 'automatic cut-out' can be set in steps from 1 (most sensitive value) to 16 (according to table).
- Save your setting with programming button \textcircled{P} .

The control unit changes automatically to programming 'offset learned power limit'.

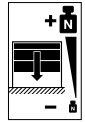


Advice!

When re-programming the end positions (1st programming level) the pull 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.

4. Programming 'offset learned power limit'



Attention!

The learning power limit is set automatically.
Only change it if necessary (error No. 28)

When increasing the set value the offset in OPEN and CLOSE direction is increased and thus the sensitivity of the learning power limit is reduced.

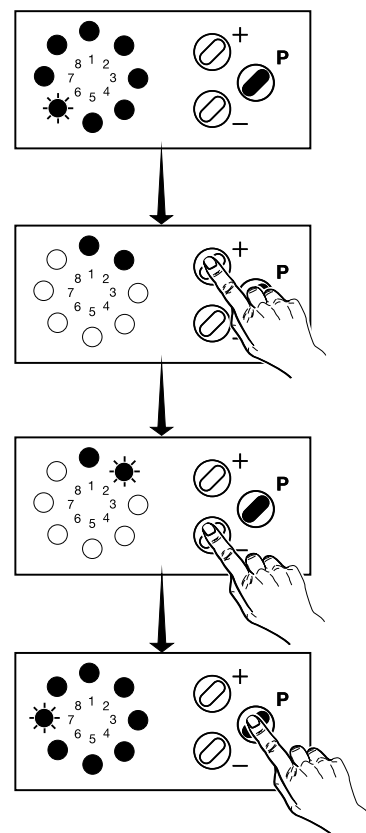
Attention!

Always test the max. allowed operating forces according to EN 12445 and EN 12453!

LED 6 is flashing.

- With button ⊕ or ⊖ the 'offset learned power limit' can be set in steps from 2 (most sensitive value) to 16 (according to table).
- Save your setting with programming button ⊕.

The control unit changes automatically to the programming of 'operator speed'.



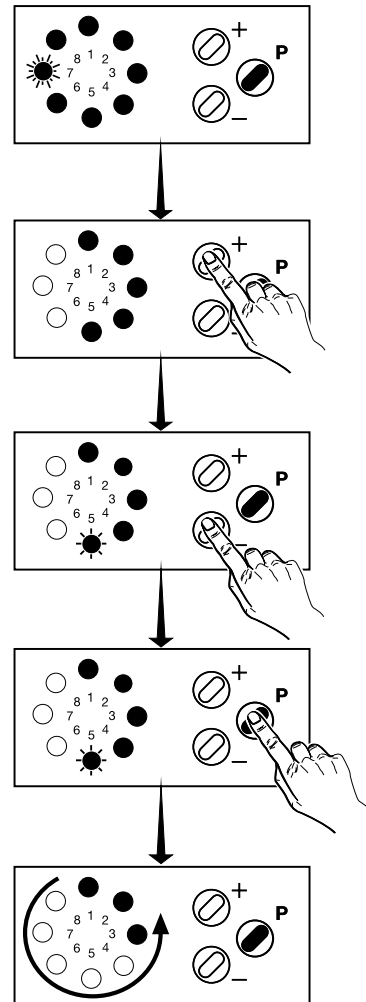
Display functions and programming possibilities

5. Programming of 'operator speed'

LED 7 is flashing.

- With button ⊕ or ⊖ the 'operator speed' can be set in steps from 7 (slowest) to 16 (according to table).
- Save your setting with programming button P.

After the last programming level the programming of extended operator functions is terminated, recognizable by all LED's going out in sequence 8 - 1.



ENGLISH

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