


TR10A073 RE / 03.2009

Instructions for Operating and Maintenance

Control for Roller Garage Door Operator

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Dear Customer,
We are delighted that you have decided to choose a high-quality Hörmann product.

1 About These Instructions

These instructions are divided into a text section and an illustrated section. The illustrated section can be found after the text section.

Read through all of the instructions carefully, as they contain important information about the product. Pay attention to and follow the instructions provided, particularly the safety instructions and warnings.





Please keep these instructions in a safe place and make sure that they are available to all users at all times.

1.1 Further applicable documents

The following documents for safe handling and maintenance of the door system must be placed at the disposal of the end user:

- These instructions
- Fitting instructions for roller garage door
- The enclosed test manual

1.2 Warnings used

<p>ATTENTION Indicates a danger that can lead to damage or destruction of the product.</p>  <p>The general warning symbol indicates a danger that can lead to injury or death. In the text section, the general warning symbol will be used in connection with the caution levels described below. In the illustrated section, an additional instruction refers back to the explanation in the text.</p>
<p>CAUTION Indicates a danger that can lead to minor or moderate injuries.</p> 
<p>WARNING Indicates a danger that can lead to death or serious injuries.</p> 
<p>DANGER Indicates a danger that leads directly to death or serious injuries.</p> 

1.3 Definitions

Hold-open phase

Waiting phase at the *OPEN* end-of-travel position before the door closes during automatic timed closing

Automatic timed closing

Automatic timed closing of the door after a set time has elapsed and after reaching the *OPEN* end-of-travel position.

DIL switches

Switches on the control print for setting the control.

Photocell

The photocell acts as a safety device in the *CLOSE* direction. If the photocell is activated while the door is moving towards the *CLOSE* end-of-travel position, the door will stop and move towards the *OPEN* end-of-travel position. In the

"automatic timed closing" function, when the door (*OPEN* end-of-travel position) and the photocell are passed through, the remaining hold-open phase is stopped and set to a preset value (30 seconds).

Impulse operation/impulse control

A sequence of impulses which allows the door to alternately *OPEN-STOP-CLOSE-STOP*.

Force learning cycle

The forces necessary for door travel are learned this force learning cycle.

Reference cycle

Door run with reduced speed towards the *OPEN* end-of-travel position in order to set the home position.

Reverse cycle/safety cycle

Door travels in the opposite direction on activation of the safety devices (via force limit for approx. 60 cm, via photocell to the *OPEN* end-of-travel position).

Partial opening

The door only moves to a programmed height. This is only possible via the remote control.

Advance warning phase

The time between the travel command (impulse) and the start of travel.

Factory reset

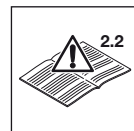
Resetting the learned values to the delivery status/ex factory setting

Colour code for cables, single conductors and components

The abbreviations of the colours for identifying the cables, conductors and components comply with the international colour code according to IEC 757:

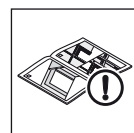
BK	Black	PK	Pink
BN	Brown	RD	Red
BU	Blue	SR	Silver
GD	Gold	TQ	Turquoise
GN	Green	VT	Violet
GN/YE	Green/yellow	WH	White
GY	Grey	YE	Yellow
OG	Orange		

1.4 Symbols used

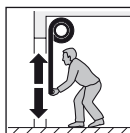


See text section

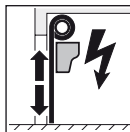
In the example, **2.2** means: See text section, section 2.2



See illustrated section



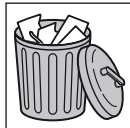
Operator unlocked



Operator locked



Audible engagement



Remove and dispose of component or packaging

Factory settings



If DIL switches are used to set the controls, the following symbol indicates the factory setting(s) of the DIL switches.

2 Safety instructions

Please pay attention to all our safety instructions and warning notices.

NOTE:

The test manual and instructions for safe handling and maintenance of the door system must be placed at the disposal of the end user.

2.1 Intended use

The roller garage door operator is designed and intended exclusively for the operation of smooth-running, spring-compensated roller garage doors in the domestic, non-commercial sector. The maximum permissible door size and maximum weight must not be exceeded.

Please note the manufacturer's specifications regarding the door and operator combination. Possible hazards as defined in EN 12604, EN 12605, EN 12445 and EN 12453 are prevented by the design itself and by carrying out fitting in accordance with our guidelines. Door systems used by the general public and equipped with a single protective device, e.g. force limit, may only be used when monitored.

The roller garage door operator is designed for operation in dry areas.

2.2 Non-intended use

Use in the commercial sector is prohibited.

2.3 Fitter qualification

Fitting, maintenance, repairs and disassembly of the roller garage door operator must be performed by a specialist. According to EN 12635, a specialist is a person with suitable training, specialist knowledge and practical experience sufficient to correctly and safely fit, test, and carry out maintenance on a door system.

- ▶ In the event of a failure of the roller garage door operator, a specialist must be commissioned immediately for the inspection or repair work.

2.4 General safety instructions

WARNING

Danger of injury due to incorrect fitting and handling

Incorrect fitting or handling of the operator may trigger unwanted door travel. Persons or objects may be trapped as a result.

- ▶ Follow all the instructions provided in this manual.

Danger of injury during repairs and adjustment work

A malfunction in the door system or an incorrectly aligned door can cause serious injury

- ▶ Do not use the door system if repair or adjustment work must be conducted.

2.5 Safety instructions for fitting

WARNING

Incorrect attachment of control devices

Incorrectly attached control devices (e.g. buttons) may trigger unwanted door travel. Persons or objects may be trapped as a result.



- ▶ Fit permanently installed control devices (such as buttons, etc.) within sight of the door, but away from moving parts.
- ▶ Install control devices at a height of at least 1.5 m (out of the reach of children).


Observe the following points during fitting:

- The fitter must ensure that the national regulations governing the operation of electrical equipment are complied with.
- Before fitting the operator, make sure that the door can also be easily operated manually. Use on doors with a gradient or slope is not permitted.
- In addition, check the entire door system (door pivots, bearings and fastenings) for wear and possible damage. Check for signs of rust, corrosion or fractures.
- The applicable regulations regarding occupational safety must be complied with when carrying out the fitting work.
- Always cover the operator before drilling, since drilling dust and shavings can lead to malfunctions.
- After fitting has been completed, the installer of the door system must declare conformity with DIN EN 13241-1 in accordance with the scope of application.


2.6 Safety instructions for operation

⚠ CAUTION

Door in motion
If people or objects are in the area around the door while the door is in motion, this can lead to injuries.



- ▶ No people or objects are allowed in the area of door movement.
- ▶ Children are not allowed to play near the door system.



ATTENTION

Cable of the mechanical release
If the cable of the mechanical release becomes caught on a roof support system or anything projecting from the vehicle or door, this can lead to damages.

- ▶ Make sure that the cable cannot become caught.

2.7 Safety instructions for maintenance

- The roller garage door operator is maintenance-free. For your own safety, however, we recommend having the **door system checked by a specialist in accordance with the manufacturer's specifications.**
- **All safety and protective functions** must be checked **monthly** to ensure that they are in working order. Any malfunctions and/or defects must be rectified immediately.
- Inspection and maintenance may only be carried out by a specialist. Contact your supplier for this purpose. A visual inspection may be carried out by the operator.
- Contact your supplier in the case of necessary repairs. We would like to point out that any repairs not carried out properly or with due professionalism shall render the warranty null and void.

3 Fitting

3.1 Preparation for fitting

⚠ WARNING

Danger of injury due to damaged components
Do not use the door system if repair or adjustment work must be conducted. A malfunction in the door system or an incorrectly aligned door can cause serious injury.

- ▶ In addition, check the entire door system (door pivots, bearings and fastenings) for wear and possible damage. Check for signs of rust, corrosion or fractures.
- ▶ Only operate the roller garage door operator if you have full view of the door's area of travel during the entire time the door is in motion.
- ▶ Make sure that the door has opened completely before driving into or out of the garage. Never drive or walk through doorways unless the roller garage door has reached the OPEN end-of-travel position.

Before installing the operator and in the interests of personal safety, make sure that any necessary repairs to the door system are carried out by a qualified specialist.

Only correct fitting and maintenance in compliance with the instructions by a competent/specialist company or a competent person/specialist ensures safe and flawless operation of the system.

The specialist must ensure that the applicable regulations on occupational safety, as well as the regulations on the operation of electrical devices, are followed during assembly work. The national guidelines must be observed. Possible hazards are prevented by the design itself and by carrying out fitting in accordance with our guidelines.

- ▶ All safety and protective functions must be checked **monthly** to ensure that they are in working order. Malfunctions and/or defects must be rectified immediately.

ATTENTION

Damage caused by dirt
Drilling dust and chippings from drilling work can lead to malfunctions.

- ▶ Cover the operator during drilling work.

Before fitting and operating the door system:

⚠ CAUTION

Danger of crushing in the side guides
Do not reach into the side guides with your fingers during door travel, as this can cause crushing.

- ▶ Do not reach into the side guides during door travel


- ▶ All persons using the door system must be shown how to operate it properly and safely.
- ▶ Demonstrate and test the mechanical release as well as the safety return. To do this, halt the closing door by grasping it with both hands. The door system must initiate the safety return.

- ▶ In addition, check that the door is in a flawless mechanical condition, so that it can be easily operated manually and opens and closes properly (EN 12604).

NOTE:

The fitter must check that the fitting materials supplied are suitable for the purpose and the intended fitting location.

3.2 Electrical connection

 DANGER
<p>Dangerous electrical voltage</p> <p>Mains voltage is necessary for operating this device. Improper use can cause electrical shocks which can lead to death or serious injuries.</p> <ul style="list-style-type: none"> ▶ Electrical connections may only be made by a qualified electrician. ▶ Always disconnect the operator and the control from the power supply before performing any work on the door system. ▶ The on-site electrical installation must comply with the respective safety regulations. ▶ All the cables must be inserted into the control unit from below and free from distortion.

ATTENTION
<p>Damage to the electronics caused by external voltage</p> <p>External voltage on the connecting terminals of the operator and control will destroy the electronics.</p> <ul style="list-style-type: none"> ▶ Lay the operator cables in an installation system that is separate from the mains supply.

3.2.1 Mains voltage

If needed, the mains cable can be replaced by a fixed connection with 230/240 V AC, 50/60 Hz via an all-pole mains disconnecter with the appropriate pre-fuse. Order from left to right = N, PE, L (see **Figure 1.2**).

3.3 Connection of additional components to the control print

To connect additional components, the flap of the control housing must be opened (see **Figure 1.1**). The radio receiver, additional components such as internal push buttons, or safety devices such as photocells are connected to terminals that only carry a non-hazardous low voltage of max. 30 V DC. All connecting terminals can be given multiple assignments, but with a maximum of 1 x 2.5 mm² (see **Figure 2**). Always disconnect the mains plug before connecting any components.

NOTE:

The voltage of approx + 24 V available at the connecting terminals cannot be used to supply power to a light!

3.3.1 Connecting jack for extensions

System jack for extensions, e.g. options relay for warning lamp*

(*Accessory, not included as standard equipment!)

3.3.2 Connecting an additional external radio receiver*

(*Accessory, not included as standard equipment!)

In addition to, or instead of, an integral radio module (see section 6.3.1), an external radio receiver can be connected:

- 1-channel radio receiver for the function impulse operation
- 2-channel radio receiver for the functions impulse operation and operator light on/off
- 3-channel radio receiver for the functions impulse operation, operator light on/off and partial opening

Insert the plug of the receiver in the corresponding slot (see **Figure 4**).

3.3.3 Internal push button*

(*Accessory, not included as standard equipment!)

Internal push buttons are connected to the terminals at left as shown in **Figure 5-7**.

- Type IT1 for the function impulse operation (see **Figure 6**)
- Type IT1b for the function impulse operation (see **Figure 5**)
- Type IT3b for the functions impulse operation (see **Figure 7**), operator light on/off (see **Figure 7.1**), radio operation is prevented (= holiday function, see **Figure 7.2**).

3.3.4 Connection of a 2-wire photocell*

(*Accessory, not included as standard equipment!)

2-wire photocells (e.g. EL101, EL301) which are used as safety photocells and to monitor the automatic timed closing must be connected as shown in **Figure 8** (observe DIL 4 setting, section 4.3.3).

NOTE:

When fitting a photocell, make sure that the transmitter and receiver housings are fitted as close to the floor as possible – see the instructions for the photocell.

3.3.5 Emergency battery*

(*Accessory, not included as standard equipment!)

To enable door movement in the event of a mains failure, an optional emergency battery can be connected (see section 8.4).

3.3.6 Signal transmitter for forced opening attempt*

(*Accessory, not included as standard equipment!)

A magnet switch fixed to the door can detect a forced opening attempt and activate a signal transmitter connected here (24 V max. 100 mA, **Figure 9.1b**) for max. 3 minutes.

3.4 Connection of additional components to the motor connection print**3.4.1 Terminal S1, static current circuit RSK 1**

Connection of the switch to the decoupling mechanism (mechanical release, see section 8.5).

3.4.2 Terminal S2, static current circuit RSK 2

Connection of an optional safety switch.

3.4.3 Terminal S3, static current circuit RSK 3

Connection of an optional safety switch.


3.4.4 Terminal S4, magnet switch for forced opening attempt*

(*Accessory, not included as standard equipment!)

If the door is closed, a magnet switch fixed to the door can detect a forced opening attempt. Actuation of the switch connected here activates the signal transmitter.

4 Putting the Control Into Service

4.1 Preparations

 CAUTION
<p>Danger of door falling Before the spring assembly is fitted, no persons may be located near the door, as it is in danger of falling.</p> <ul style="list-style-type: none"> ▶ Do not come near the door until the spring assembly has been fitted. <p>Danger of crushing in the side guides Do not reach into the side guides with your fingers while fitting the roller door curtain, as this can cause crushing.</p> <ul style="list-style-type: none"> ▶ Do not reach into the side guides while fitting the roller door curtain

During mechanical fitting of the roller garage door, the roller door curtain can be rolled onto the shaft, by means of the operator. To do this, the operator and the control must be fitted and electrically connected to the 4-lead cable as specified in the "Instructions for Fitting, Operating and Maintenance, Roller Garage Door".

The following steps must be completed:

4.1.1 Fitting

1. All DIL switches must be at OFF.
2. Insert the control plug into the electric socket or activate the electrical fixed connection (see section 3.2.1). The rim of the large T button flashes quickly.
3. In press-and-hold operation (alternating Open - Close - Open - Close....as long as the button is held down), the curtain can now be rolled onto the shaft and, by moving up and down, fed into the side guide.
4. After fixing the rolling curtain as specified in the "Instructions for Fitting, Operating and Maintenance, Roller Garage Door", check several times whether the door runs correctly.
5. Close the door halfway.

NOTE:

Check whether the grip handles (fixed) are fitted to the bottom weather seal.

4.1.2 Teaching in

- ▶ See Figure 11
1. **DIL switch 1 at ON.**
The rim of the large T button flashes 7x - pause - 7x - pause - etc. to show that "Operator has not been taught in yet".
 2. Press the large T button 1x.
The OPEN reference run takes place automatically, followed by two CLOSE/OPEN cycles to teach in the CLOSE end-of-travel position and the forces. When the door stops in the OPEN end-of-travel position and the rim of the large T button flashes, the operator has been taught in.

3. Switch the control voltage-free and complete the remainder of the mechanical fitting as described in the "Instructions for Fitting, Operating and Maintenance, Roller Garage Door".
4. **Set DIL switches 2-6** to correspond to the additional functions (see section 4.3.2 - 4.3.5).

4.2 Factory reset

The operator has a power failure-proof memory in which the door-specific data (travel, forces needed during door travel, etc.) is stored during the teach-in process and updated during subsequent door travels. This data is only valid for this door. For use with another door, or if the door's travel behaviour has changed significantly (i.e. in the event of fitting of new springs, conversions etc.), this data must be deleted and the operator must be taught in again.

Reset and teach in the operator again

1. The door should be in the centre.
2. Push and hold down the **RESET** button for at least 5 seconds (see Figure 1.2), the rim of the large T button will flash quickly. When the rim of the large T button remains lit, release the **RESET** button.
All door data has been deleted. The rim of the large T button flashes 7x – pause – 7x – pause – etc. to show that "Operator has not been taught in yet".
3. Press the large T button 1x. The OPEN reference run takes place automatically, followed by two CLOSE/OPEN cycles to teach in the CLOSE end-of-travel position and the forces.
When the door stops in the OPEN end-of-travel position and the rim of the large T button flashes, the operator is learned.


4.3 Setting the DIL switches

DIL switches 1 to 6 (accessible under flap of operator cover, see Figure 1.1) must be set according to the national regulations, the desired safety devices and local conditions. Changes to the DIL switch settings are only permissible if the operator is at rest and no advance warning phase or automatic timed closing is active.

4.3.1 DIL switch 1

Set-up mode/press-and-hold operation and normal mode

▶ See section 4.1

1 ON	Activated, normal mode in press-and-release operation
1 OFF 	Not activated, set-up mode/press-and-hold operation for door fitting


4.3.2 DIL switch 2/DIL switch 3

The functions of the operator (automatic timed closing/ advance warning phase) and the function of the options relay are set with **DIL switch 2** in combination with **DIL switch 3**.


Automatic timed closing, advance warning phase

2 ON	3 ON	Operator function After hold-open phase and advance warning phase, automatic timed closing from the OPEN end-of-travel position
		Operator light <ul style="list-style-type: none"> Permanent light during the hold-open phase and the door run Flashes quickly during the advance warning phase
		Options relay <ul style="list-style-type: none"> Permanent contact during the hold-open phase Clocks rapidly during the advance warning phase and slowly during the door run



CLOSE limit switch reporting

2 OFF 	3 ON	Operator light Permanent light during the door run/ switch-off delay after end-of-travel positions have been reached
		Options relay CLOSE limit switch reporting

Advance warning phase

2 ON	3 OFF 	Operator light <ul style="list-style-type: none"> Flashes quickly in the advance warning phase Permanent light during the door run
		Options relay Relay clocks slowly during the door run (function of an auto-flashing warning lamp)

External light

2 OFF 	3 OFF 	Operator light Permanent light during the door run/ switch-off delay after end-of-travel positions have been reached
		Options relay Same function as operator light (external light)

NOTE:


In the scope of the DIN EN 12453, automatic timed closing must only become active if a safety device is connected.

NOTE:


Setting the automatic timed closing is only possible if the photocell is active. To do this, set **DIL switch 4** to **ON**.

When the door reaches the *OPEN* end-of-travel position and a hold-open phase of approx. 30 seconds has elapsed, automatic timed closing will start. After an impulse or after the photocell has been passed, the remaining hold-open phase is stopped and set to a preset value (30 seconds).


4.3.3 DIL switch 4**Photocell (e.g. EL101, EL 301)**

4 ON	Activated, if the photocell is activated, the door reverses to the <i>OPEN</i> end-of-travel position. Automatic timed closing is only possible with this setting (see section 4.3.2)
4 OFF 	Not activated, automatic timed closing not possible

4.3.4 DIL switch 5

5 ON	Activated, no closing possible
5 OFF 	Not activated, normal door operation

4.3.5 DIL switch 6**Door maintenance display**

6 ON	Activated; if the maintenance cycle is exceeded (see section 7.2), this is signalled by the operator light flashing several times at the end of every door run.
6 OFF 	Not activated, no signal after the maintenance cycle is exceeded

5 Hand Transmitter**5.1 Control elements**

► See **Figure 12**


- LED
- Control buttons
- Battery compartment cover
- Battery
- Reset button
- Hand transmitter holder

5.2 Important information for using the hand transmitter

- Only use original components when putting the remote control into service.
- If there is no separate garage entrance, perform all programming changes and extensions while standing in the garage.
- After programming or extending the remote control, check the functions.
- Hand transmitters should be kept away from children and may only be used by people who have been instructed on how the remote-control door functions!
- The hand transmitter may only be used if the door is in sight!
- Remote-control door systems can only be driven or passed through if the roller garage door is in the *OPEN* end-of-travel position.

- Protect the hand transmitter from the following environmental conditions:
 - Direct sunlight (perm. ambient temperature: -20°C to +60°C)
 - Moisture
 - Dust

These conditions can impair function!

 CAUTION
<p>Unwanted door travel Unwanted door travels may occur while programming the hand transmitter.</p> <ul style="list-style-type: none"> ▶ When programming and extending the remote control, make sure no persons or objects are within the door's range of travel.

NOTE:

Local conditions may affect the useful range of the remote control.

5.3 Extending the remote control with additional hand transmitters HS1, HS4, HSM4 or HSE2


▶ See **Figure 12.1**

NOTE:

If there is no separate garage entrance, perform all programming changes and extensions while standing in the garage.

1. Hold the transmitter that is supposed to "teach" the code (teaching transmitter **a**) directly next to the transmitter that is supposed to learn the code (learning transmitter **b**).
2. Press and hold the desired button of the teaching transmitter. The teaching transmitter's LED will now light up continually.
3. Immediately afterwards press and hold the learning transmitter's button that you want to teach in – the learning transmitter's LED will first flash slowly for 4 seconds and then, if learning was successful, it will flash more quickly.
4. Release the buttons of both the teaching transmitter and the learning transmitter.

Carry out a functional check! If a malfunction occurs, repeat steps 1-4.

 CAUTION
<p>Unwanted door travel Unwanted door travels may occur while programming the hand transmitter.</p> <ul style="list-style-type: none"> ▶ When programming and extending the remote control, make sure no persons or objects are within the door's range of travel.

NOTE:

If the button on the learning transmitter is released while the LED is still flashing slowly, the teach-in process is cancelled.

5.4 Restoring the factory coding

▶ See **Figure 12.2**

NOTE:

The following steps are only required in the case of inadvertent extension or teach-in processes.

The code space for each button on the hand transmitter can be assigned the original factory coding or another code.

1. Open the battery compartment cover.
A small button is visible on the print.

ATTENTION

Destruction of the button

- ▶ Do not use any pointed objects or excessive force when pressing the button.
2. Carefully press button **5** with a blunt object and keep it pressed.
 3. Press the control button to be coded and keep it pressed.
The transmitter LED will flash slowly.
 4. If you keep the small button pressed until the slow flashing stops, the control button will be assigned the original factory coding and the LED will start to flash faster.
 5. Close the battery compartment cover.
 6. Reprogram the receiver.

6 Radio Remote Control

6.1 Integral radio receiver

The control for the roller garage door is equipped with an integral radio receiver. With the integral radio receiver, the *impulse* function (Open-Stop-Close-Stop), the *light* function (operator light on/off) and the *partial opening* function (door only moves to a programmed height) each can be programmed on max. 6 different hand transmitters. If more than 6 hand transmitters are programmed, the first one programmed will be deleted without advance warning. All memory spaces are empty in the delivery condition.

Radio programming/deleting data is only possible if:

- No set-up mode is activated (**DIL switch 1** at **OFF**).
- No door run takes place.
- No advance warning or hold-open phase is presently active.

NOTE:

One of the hand transmitter buttons must be programmed on an integral radio receiver to actuate the operator via radio. There must be a distance of at least 1 m between the hand transmitter and the control. When used at the same time, GSM 900 mobile phones can affect the range of the radio remote control.

6.2 Programming the hand transmitter buttons on an integral radio receiver

1. Briefly press the small **P** button (see **Figure 1**) once (for channel 1 = impulse command), twice (for channel 2 = light command) or three times (for channel 3 =partial opening command).
Pressing the small **P** button again will immediately end radio programming.

Depending on the channel being programmed, the rim of the large **T** button will flash 1x (for channel 1) or 2x (for channel 2) or 3x (for channel 3). During this time, a hand transmitter button can be programmed for the desired function.

- Press the hand transmitter button to be programmed until the rim of the large **T** button flashes rapidly. The radio code of this hand transmitter button is now stored in the integral radio receiver

6.3 Deleting all data of an integral radio receiver

- Push the small **P** button and hold it down. The rim of the large **T** button flashes slowly, signalling the readiness for deletion. The flashing rhythm becomes more rapid. Afterwards, the programmed radio codes of all hand transmitters are deleted.

6.3.1 Connecting an external radio receiver*

(*Accessory, not included as standard equipment!)

Instead of an integral radio receiver, an external 1/2/3-channel radio receiver can be used for the *impulse* function (channel 1), *light* function (channel 2) or *partial opening* function (channel 3) to control the roller garage door operator. Insert the plug of the receiver in the corresponding slot (see **Figure 4**). To avoid double assignments, delete the data of the integral radio receiver when using an external radio receiver (see *Deleting all data of an integral radio receiver*, page 23).

7 Operator Light

7.1 Messages when mains voltage is on

If the mains plug is plugged in and the large **T** button is not pushed, the operator light will flash two or three times.

If it flashes two times, this shows that no door data is present or that the door data has been deleted (as in delivery condition); it can then be learned immediately.

If it flashes three times, this signals that saved door data is present, but the last door position is not sufficiently known. For this reason, the next run will be in the *OPEN* direction with decreased speed (reference run). Door travel in normal mode will follow.



7.2 Maintenance display

If **DIL switch 6** is at **ON**, the operator light will flash several times after each door travel, to show that door maintenance is due, if:

- Over 2000 door cycles were run after each learning cycle
- Over one year of operating time has elapsed since the last maintenance.

7.3 Changing the bulb

For using/replacing the operator light:

	 DANGER
Mains voltage	
If the light is switched on, mains voltage is present at the lamp socket.	
▶ Exchange the light bulb only if the operator is voltage-free.	

CAUTION

Hot light bulb

Touching the light bulb during or immediately following operation can lead to burns.

- Do not touch the light bulb if it is switched on or was recently switched on.

- Pull out the mains plug or, in the case of a fixed connection (see section 3.2.1), disconnect the current supply
- Remove the lamp cover (see **Figure 14**)
- Replace the light bulb (candle bulb E14 matt, 240 V / max. 25 W)
- Fit the lamp cover
- Insert the mains plug (reconnect the current supply) The operator light will flash three times (see section 7.1). The next run will be an *OPEN* reference run.

8 Operation

WARNING

Danger of injury during operation

Persons or objects may be trapped while the door is closing.

- Only operate the roller garage door operator if you have full view of the door's area of travel.
- Before driving in or out of the doorway, always check that the door has fully opened. Never drive or walk through doorways unless the entrance door has reached the *OPEN* end-of-travel position.

Danger of crushing in the side guides

Do not reach into the side guides with your fingers during door run, as this can cause crushing.

- Do not reach into the side guides during door travel

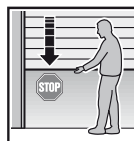
ATTENTION

Overloading the release knob

The release knob can be damaged by overloading.

- Do not hang on the release knob with your body weight.

Before operation:



- All persons using the door system must be shown how to operate it properly and safely.
- Demonstrate and test the mechanical release as well as the safety return. To do this, halt the closing door by grasping it with both hands. The door system must initiate the safety return.

8.1 Normal mode

In normal operation, the garage door operator works exclusively with the impulse sequence control. It does not matter whether an external button, a programmed hand transmitter button or the large **T** button is actuated:

- 1st impulse: The door travels towards an end-of-travel position.
 2nd impulse: The door stops.
 3rd impulse: The door travels in the opposite direction.
 4th impulse: The door stops.
 5th impulse: The door travels towards the end-of-travel position selected in the 1st impulse.

etc.

The operator light will light up during a door run and will go out approx. 2 minutes after the door run ends.

8.2 Partial opening

The partial opening function (ventilation position) can only be controlled via the internal/external radio.

- Using impulse control move the door to the desired position
- On the control, teach in a hand transmitter button for **channel 3** (see section 6.2).

8.3 Operator light

The operator light will light up during a door run and will go out approx. 2 minutes after the door run ends.

Via the radio remote control (**channel 2**, see section 6.2), the operator light can be switched on or off when the operator is at rest. The maximum illumination time is automatically set to 5 minutes.

8.4 Mains failure bridging using an emergency battery

(*Accessory, not included as standard equipment!)

To enable door movement in the event of a mains failure, an optional emergency battery can be connected (see **Figure 9.1a**).

1. Pull out the mains plug or, in the case of a fixed connection, disconnect the current supply
2. Remove plug cover and top part of housing.
3. Insert the plug of the emergency battery into the corresponding slot.
4. Fasten the half of the housing again.
5. Insert the mains plug (reconnect the current supply)
The operator light will flash three times (see section 7.1).
The next run will be an **OPEN** reference run.

In the case of a mains failure, the system automatically switches to battery operation. During battery operation, the operator light remains switched off.

NOTE:

Only use the corresponding emergency battery with integral charging circuit intended for this purpose.

8.5 Operation after the decoupling mechanism (mechanical release) is actuated

The decoupling mechanism separates the operator from the roller door shaft. This means that the door can be opened manually, e.g. during a mains failure.

ATTENTION

Overloading the release knob

The release knob can be damaged by overloading.

- ▶ Do not hang on the release knob with your body weight.

1. Pull the release knob and lead the cable clamp under the hook on the housing in order to mechanically release the operator (see **Figure 13**).
After releasing, the rim of the large **T** button will flash 8x.
2. Open or close the door.
3. After manual use, lock the decoupling mechanism with the release knob.
4. Press the large **T** button once.
The door moves with reduced speed towards the **OPEN** end-of-travel position in order to set the home position (reference run).

The rim of the large T button illuminates; the operator is now ready for normal mode again.

NOTE:

The mechanical release function must be inspected **monthly**. The release may only be actuated when the door is closed; otherwise, there is a danger that the door will close rapidly if the springs are weak, broken or defective, or if the counterbalance is inadequate.

9 Inspection and Maintenance

The roller garage door operator is maintenance-free. The door system must be checked by a specialist in accordance with the manufacturer's specifications.

NOTE:

- The roller garage door operator is maintenance-free. For your own safety, however, we recommend having the **door system checked by a specialist in accordance with the manufacturer's specifications**.
- **All safety and protective functions** must be checked **monthly** to ensure that they are in working order. Any malfunctions and/or defects must be rectified immediately.
- Inspection and maintenance may only be carried out by a specialist. Contact your supplier for this purpose. A visual inspection may be carried out by the operator.
- Contact your supplier in the case of necessary repairs. We would like to point out that any repairs not carried out properly or with due professionalism shall render the warranty null and void.

9.1 Operation, error and warning messages

Error messages/diagnostic LED

The diagnostic LED (see **Figure 1**), which is visible through the rim of the large **T** button, helps to easily identify causes when operation does not go according to plan. In a taught-in condition, the LED lights up continually and goes out as long as an externally connected impulse is present.

An error is shown by flashing:

LED flashes quickly
Press-and-hold operation for setting up the operator (DIL 1, see section 4.1/4.3.1)
LED flashes 2x
Possible cause Photocell was interrupted/not connected
Remedy Check photocell, replace or connect as necessary
LED flashes 3x
Possible cause The <i>CLOSE</i> force limit was activated – a safety reversal took place.
Remedy Remove the obstruction. If the safety reversal took place for no apparent reason, check the door mechanism. If necessary, delete the door data and teach it in again.
LED flashes 4x
Possible cause The static current circuit (RSK, see section 3.4) is open or was opened during a door run.
Remedy Check the connected units, close the circuit.
LED flashes 5x
Possible cause The <i>OPEN</i> force limit was activated – the door was stopped during an opening run.
Remedy Remove the obstruction. If stopping before the <i>OPEN</i> end-of-travel position was caused for no apparent reason, check the door mechanism. If necessary, delete the door data and teach it in again.
LED flashes 6x
Possible cause Operator error/malfunction in operator system
Remedy If necessary, delete the door data and teach it in again. If the operator error occurs again, the operator should be replaced.
LED flashes 7x
Possible cause The operator has not been taught in yet (this is only a message and not a malfunction).
Remedy Activate the learning cycle via the large T button.
LED flashes 8x
Possible cause Power failure or mechanical release. The operator requires an <i>OPEN</i> reference run.
Remedy Activate an <i>OPEN</i> reference run via an external button, the hand transmitter, or the large T button.

LED flashes 13x
Possible cause Voltage of emergency battery is too low
Remedy Further electrical operation is possible only after the mains power supply has been restored.
LED flashes 14x
Possible cause Connection to the motor connection print in the operator is defective.
Remedy Check the connection and the connecting cables, exchange the motor connection print.

10 Dismantling and Disposal

Have the roller garage door operator dismantled and disposed of by a specialist.

11 Optional Accessories

Optional accessories are not included in the scope of delivery. Loading of the operator by all electrical accessories: max. 100 mA.

The following accessories are available:

- Options relay for warning lamp
- External radio receivers
- External impulse buttons, e.g. key switch
- One-way photocell
- Battery pack for emergency power supply
- Signal tone generator for forced opening attempt
- External release

12 Warranty Conditions

Warranty

We shall be exempt from our warranty obligations and product liability in the event that the customer carries out his own structural alterations or undertakes improper installation work or arranges for same to be carried out by others without our prior approval and contrary to the fitting guidelines we have provided. Moreover, we shall accept no responsibility for the inadvertent or negligent use of the operator or improper maintenance of the door and the accessories nor for a non-authorized method of fitting the door. Batteries are also not covered by the warranty.

Warranty period

In addition to the statutory warranty provided by the dealer in the sales contract, we grant the following warranty for parts from the date of purchase:

- 5 years for the operator mechanics, motor, and motor control
- 2 years on radio equipment, impulse generator, accessories and special systems

There is no warranty on consumables (e.g. fuses, batteries, lamps). Claims made under the warranty do not extend the warranty period. For replacement parts and repairs the warranty period is six months or at least the remainder of the warranty period.

Prerequisites

A claim under this warranty is only valid for the country in which the equipment was bought. The product must have been purchased through our authorised distribution channels. A claim under this warranty exists only for damage to the object of the contract itself. Reimbursement of expenditure for dismantling and fitting, testing of corresponding parts, as well as demands for lost profits and compensation for damages, are excluded from the warranty. The receipt of purchase substantiates your right to claim under the warranty.

Performance

For the duration of the warranty we shall eliminate any product defects that are proven to be attributable to a material or manufacturing fault. We pledge to replace free of charge and at our discretion the defective goods with non-defective goods, to carry out repairs, or to grant a price reduction.

Damages caused by the following are excluded:

- improper fitting and connection,
- improper initial start-up and operation,
- external factors such as fire, water, abnormal environmental conditions,
- mechanical damage caused by accidents, falls, impacts,
- negligent or intentional destruction,
- normal wear or deficient maintenance,
- repairs conducted by unqualified persons,
- use of non-original parts,
- removal or defacing of the type plate

Replaced parts become our property.

13 Technical Data

External dimensions:	275 x 140 x 90 mm
Mains voltage:	230/240 V / 50/60 Hz Stand-by approx. 6 W
Protection category:	Only for dry rooms
Temperature range:	-20°C to +60°C
Replacement bulb:	Candle bulb E14, 240 V, max. 25 W
Fuse for control current circuit:	Microfuse 5 x 20 mm, 2 A
Motor:	Direct current motor with hall sensor
Transformer:	With thermal protection
Connection:	No-screw connection technology for external equipment with 24 V DC low safety voltage, such as internal and external buttons with impulse operation.
Remote control:	Operation with internal or external radio receiver
Automatic safety cut-out:	Is automatically learned for both directions separately. Self-learning, wear-free, as it has no mechanical switches.
Travel/force limit:	Readjusting automatic safety cut-out for every door run.
Door travel speed:	Approx. 11 cm/s (dependent on door size, door weight und barrel diameter)
Rated load:	See type plate
Pull and push force:	See type plate
Short-term peak load:	See type plate
Special functions:	<ul style="list-style-type: none"> • Operator light, 2-minute light ex factory • Photocell can be connected • Options relay for warning lamp • Signal tone generator for forced opening attempt • Battery for emergency operation can be connected • External release
Emergency release:	Actuated from inside with Bowden cable in the event of a power failure
Airborne sound emission of the garage door operator:	≤ 70 dB (A)
Door cycles:	See product information

