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1. General instructions

Dear customer

Congratulations on the purchase of this product.

The garage door drive has been developed according (GB) to state-of-the-art technology and manufactured using the most reliable and modern electrical / electronic components.

The manufacturer reserves the right to make improvements or changes to the devices and operating instructions at any time without prior notice.

Please take a few minutes time to read the following operating instructions prior to mounting the device and commissioning it.

1.1 General safety instructions

The door drives are designed according to the latest EC standards for the private sector.



It is essential that the following safety instructions be observed to assure the safety of the garage door drive.



Basic knowledge of mechanics electricity in general is required. Incorrect assembly may cause serioud injury!



If the drive power is set so that an effective force of more than 150 N arises at the door edge or shearing points of the garage door system before an automatic switch-off is performed, an additional safety feature must be provided in the form of a lightsensitive barrier or similar.



During assembly the applicable safety regulations regarding accident prevention are to be observed.



The on-site electrical installation work is to be performed by a qualified electrician.



Note for persons with a heart pacemaker.

The transmission power of the handheld transmitter lies within the relevant standards and in principle, is completely harmless.

In order to exclude a slight residual risk we recommend that you do not carry the handheld transmitter directly next to the body as a precautionary measure.

For your safety hold the handheld transmitter in an outstretched hand pointed towards the garage door to actuate.

1.2 Prerequisites

Implementation is only possible with the following doors:



See figure 1

- → Fully retractable Up & Over Doors
- → Sectional doors (Sectional door fittings are recommended, see chapter 12)
- Prior to drive assembly the mechanical door locking devices must be dismantled or put out of action.
- Prior to all work on the drive, disconnect the mains plug (except in the case of test and teach processes).
- · Cover the drive when drilling.
- The socket outlet with earthing contact may only be installed by an authorised specialist. It must be easily accessible.
- The garage door drive should only be implemented for the automatic operation of spring-compensated Up & Over and sectional doors in the non-commercial sector.
- Prior to drive assembly the door must be easily operated manually.
- · The drive may only be used in dry areas.
- The lintel and garage ceiling must be constructed so that the drive may be safely secured.
 - The minimum load bearing capacity of the lintel and ceiling must amount to 700 N (approx. 70 kg).
- The manufacturer affords no guarantee and product liability if installation was incorrectly performed or a change made to the drive without the latter's prior consent. Mounting may only be performed according to the assembly guidelines.
- The mounting or additional use of other parts jeopardises the safety of the drive and is therefore prohibited.
- Batteries and bulbs are excluded from warranty claims.
- Please ensure that the national VDE regulations for the operation of electrical devices are observed. We accept no responsibility for incorrect operation or maintenance of the door, accessories and drive.

1.3 Operating instructions



Warning:

Important safety instruction

It is absolutely essential that all instructions be observed in order to assure the safety of persons. Please keep this operating manual.

 Prior to commissioning the garage door drive: release slide and fully open and close the door manually. The slide must not touch the top when the door is opened nor the return mechanism when the door is closed. The mechanical locking devices must be put out of action.



An emergency release is required for garages without a second access. This should be checked monthly to assure that it is working.

 Do not apply one's body weight to the emergency release cord.

- Please ensure that the emergency release on the drive cannot become caught on a roof rack system or other projections of the vehicle or door.
- The first function checks and programming of the remote control should always be performed from inside the garage.
- Please inform all persons using the door system on how to operate it correctly and safely. Demonstrate and test reversing (automatic drive reverse given impermissibly high loading; over an opening height of 50 mm given max. 150 N) as well as mechanical emergency releasing.



Attention:

The door may close more quickly due to weak, broken or defective springs as well as insufficient weight compensation.



Only operate the door if you have the entire door area in view.

Please ensure that no persons or objects are standing in the door operating range. Wait until the door has come to a standstill.

Do not move until the door has come to a standstill.

Prior to driving in or out, ensure that the door is fully opened.



Keep the handheld transmitter out of the reach of children

Permanently mounted ancillary devices (such as push buttons etc.) should be mounted within view of the door. The distance between moving parts and the height must be at least 1.5 metres. It is essential that they be mounted outwith the reach of children!

Affix warning signs indicating the risk of be caught in the door where they may be seen immediately or in the vicinity of the permanently mounted push button.

Following assembly please ensure that the door elements do not project out on to public footpaths or roads.

2. The garage door drive

The garage door drive is a microprocessor-controlled device designed according to the latest European standards.

The drive is self locking and keeps the garage door closed. Existing locking devices should be removed.

2.1 Overview

See figure 2

- 1. Drive housing
- 2. Light cover
- 3. Drive chain
- 4. Running slide
- 5. Push rod
- 6. Door securing bracket
- 7. Emergency release
- 8. Ceiling / lintel securing
- 9. Running rail
- 10. Track joining pieces
- 11. Mains connection
- 12. Handheld transmitter

2.2 Delivery scope

See figure 3

The delivery scope includes all the individual components of a garage door drive (without mounting screws for the door securing bracket as, depending on the door type, various versions are required).

Handheld transmitter delivery scope: depending on model, 1 or 2 pieces.

The garage door drive may be optionally fitted with further accessories (see chapter 12).

3. Drive assembly



Important: safety instruction for assembly Incorrect assembly may lead to serious injury.

Please observe all assembly instructions.

3.1 Preparations

A few preparations should be made to assure swift assembly.

Read the entire manual prior to the start of assembly, it contains valuable assembly information

Take ceiling thickness into account when drilling

Check items delivered

Furnish required or desired accessories

Prepare tools (Figure 4)

Put mechanical locking devices out of action

3.2 Drive pre-assembly

See figure 5, 6 and 7

Drive assembly is illustrated in the numbered figures.

A second person to help facilitates assembly.

Cover the drive before drilling

Wear safety glasses when drilling

Individual steps

Mount door securing bracket to push rod. Do not overtighten safety nut L5. (Figure 5)

Assemble running rail (Figure 6)

Assembly of all components to form a single unit (figure 7.1 – figure 7.7)

3.3 Drive assembly

See figure 9, 10, and 11

Individual steps

The individual drive components are pre-assembled according to figures 5, 6 and 7

Drill securing holes for mounting the drive in the middle of the lintel (Figure 8)

Screw on lintel securing fittings with drive (Figure 10.1)

Screw retaining bracket to drive (Figure 10.2)

Swivel up drive and secure it centrally on ceiling (Figure 10.4)

Lengthen or shorten retaining bracket depending on the lintel height (Figure 10.3)

Tighten drive chain. Do not overtighten Chain. (Figure 11)

3.4 Mount door securing bracket with push rod

See figure 12

Once the drive is mounted on the garage ceiling the door securing bracket may be mounted.

The distance between the running rail and door securing bracket must amount to 5-7 cm.

(Mounting screws not included in delivery scope)

3.5 Optional external manual release

In Garages without a second means of access it is compulsory that an external manual release device is fitted to allow access in the event of a power failure. A kit is available as an optional extra from your supplier.



3.6 Electrical connection

The 230V main connection is provided via a permanently installed socket. It should be located approx. 20 cm from the drive. Installation should only be performed by a qualified electrician!

If the voltage supply line is damaged it must be replaced by the manufacturer, his customer service or an equally qualified person in order to avoid any danger.

3.7 Affix warning sign



The warning sign indicating the danger of jamming must be permanently affixed in a clearly visible position or vicinity of permanently mounted operating controls.



The warning sign indicating the securing of the emergency release device must be permanently affixed in a clearly visible position in the vicinity of the emergency release device.



The warning sign indicating that children should not remain in the area of the opened door must be permanently affixed in a clearly visible position in the vicinity of the door swinging area.

Commissioning



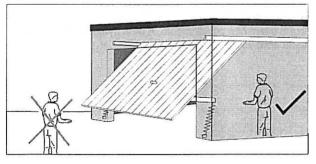
During commissioning and setting work noone should remain in the swinging area of the garage door.



During first-time automatic commissioning you should remain inside the garage so that, in the event of a malfunction, the door may be opened again.



If springs are weak or broken or the door unevenly balanced, actuating the handheld transmitter may cause uncontrolled door movement



4.1 Manual function test

Following assembly the garage door must opened and closed manually several times. It must be assured that the smooth action of the garage door is not impaired by the mounting of the drive.

Release the garage door drive via the emergency release (Figure 13.2)

Open and close the garage door several times

Lock the emergency release and move the garage door until the driver (H) latches in. It must then no longer be possible to move the garage door manually.

4.2 Programming procedure

 All of the mechanical installation of the opener must be completed and the door must be free running and easy to open and close by hand before proceeding to 4.3 below



- Remove the light cover (A1) only. To prevent risk of electric shock, do not remove the main cover (A) at any time during the installation, as there are no serviceable parts beneath.
- After checking that it is safe to do so, and the main cover (A) is still in place, plug in the mains plug
- In 4.3 below we will set up the travel of the door and the force required to move the door. (The radio system will be programmed later 4.4)
- If the mains power is removed at any time during the programming of steps 1 to 3 below, the programming must be restarted from the beginning after unplugging the opener; waiting 15 seconds and plugging it back in again. Wait a further 20 seconds after the mains power is rein stated before reprogramming commences.

Why do I have to wait 20 seconds after switching the power on?
When the power is reinstated for any reason, the microprocessor checks to make sure that a fault has not occurred and that all of the safety components of the opener are working properly, before it will allow the opener to move. DO NOT OPERATE THE DOOR OR ATTEMPT TO PROGRAM ANYTHING WHILST THE SELF-TEST IS TAKING PLACE.

4.3 Door Travel and Force Programming

During the following procedure the opener is "taught" the travel of the door and the force required for the opening and closing movement. The light sensitive barrier (if fitted) and the overload protection device are not tested at this time.

The door travel and force setting cannot be programmed using the handheld radio transmitter.

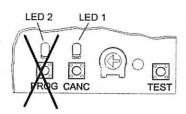
The following procedure must be completed in the exact order stated and fully completed before the opener will operate correctly.

After plugging in the opener, the control unit will carry out a self-test which must be allowed to finish before the opener can be programmed (wait 20 seconds after plugging-in).

Important Note:

Do not press the button marked "Prog" at any time whilst programming the door travel and force settings.

Why? The "Prog" button is used later when programming the radio system only



Door travel and force programming



Step 1: Setting the door closed position

- 1.1 After waiting for 20 secs whilst the self-check is carried out press and hold down the button marked "CANC" followed immediately by the "TEST" button. Hold both buttons down simultaneously until the green LED 2 flashes quickly and then release both buttons. Wait for the red LED 1 and the green LED 2 to start flashing in unison before continuing to 1.2 below.
- 1.2 Press and hold down the "TEST" button to move the door towards the closed position and release the button when the door is approximately 100 mm from the fully closed position
- 1.3 Now press the "TEST" button repeatedly until the door is moved step-by-step to the final closed position. Do not drive the door hard against the doorframe. Stop a few millimetres before the door is fully closed. LED 2 (green) lights up.
- 1.4 Press the "CANC" button to store the "Closed" position into the memory. LED 1 (red) lights up. If so proceed to Step 2.

If not, unplug the mains and repeat Step 1 from the beginning before proceeding to Step 2

The door "Closed" position will not be confirmed into the memory until completion of Steps 1,2 &3



Step 2: Setting the Door open position (this can only be done after completion of Step 1 without interruption of the mains power)

- 2.1 Press and hold down the "TEST" button to move the door towards the open position and release the button when the door is approximately 100 mm from the fully opened position.
- 2.2 Now press the "TEST" button repeatedly until the door is moved step-by-step to the final open position. Do not drive the door hard against the door open stops. Stop a few millimetres before the door is fully open. LED 2 (green) lights up.
- 2.3 Press the "CANC" button to store the Open position into the memory. LED 1 (red) lights up. If so proceed to Step 3.

 If not, unplug the mains and repeat Steps 1 & 2 from the beginning before proceeding to Step 3

The door "Open" position will not be confirmed into the memory until completion of Steps 1,2 &3

Step 3: Setting the force required to move the door

(this can only be done after completion of Step 1 &2 without interruption of the mains power)

BEWARE: The next operation will cause the door to open and close automatically for one cycle

3.1 Press the "TEST" button briefly.

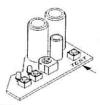
The door will now open and close once to set the force required to move the door. LED 1 (red) and LED 2 (green) flash with a time delay. After finishing programming the LEDs go out.

The LED 1 (red) flashes.

Travel and force programming is now complete.

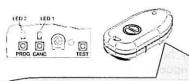
The program is not erased if the power is cut after the opener has been fully programmed.

3.2



After successfully programming the opener, the "TEST" button can be used to open and close the door at any time.

4.4 Hand held transmitter programming



A total of four handheld transmitters may be stored in the memory of the opener at any one time. Each transmitter has a unique security code that must be memorised into the opener before it can be used

Programming the First and subsequent Handheld Transmitters into the memory. (Have 1 to 4 handheld transmitters ready for programming before proceeding to the next step)

- 1 Press and hold down the "CANC" button and then the "PROG" button. Hold both push buttons down until Green LED 2 flashes quickly. Then release the button and wait until both LED's flash in unison before proceeding to (2)
- 2 Press the "PROG" button briefly. (The LED's will now flash alternately).
- 3 Press the handheld transmitter button. (The Green LED 2 will come 'On')
- 4 Release the transmitter button and after a brief interval of 2 seconds press the transmitter button again until the Green LED 2 flashes 10 times
- 5 Release the transmitter button. The Red LED 1 will flash slowly and programming of the transmitter is complete
- 6 Test the transmitter to check that it now operates the opener correctly. If not repeat steps 4&5

Programming additional handheld transmitters (maximum 4 in use at any one time)

7 Repeat steps 2 to 5 above (not step 1 !!!!)

IMPORTANT: do not press the "CANC" and "PROG" buttons when adding the second, third or fourth handheld transmitters to the memory.

Pressing these buttons will delete any transmitters that were previously coded into the memory.

Replacing lost or damaged transmitters: The remote control memory system can only store codes for four transmitters at any one time. If you have previously had four transmitters in use with the opener and one or more have been lost or broken, it will be necessary to erase the transmitter memory completely, and reprogram all of the transmitters (max 4) into the memory following steps 1 to 7 above

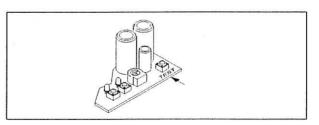


Note: Too many Transmitters!!!!

If the red led on the control board flashes quickly when you are trying to program a handheld transmitter at step (4), it means that the memory system is full and the maximum of four memory spaces have been taken. Be aware that it is possible to accidentally program the same transmitter into more than one memory space. If this happens repeat steps 1 to 7 above to clear the memory and re-program the transmitters

The remote control program is not erased if the power is cut after the opener has been fully programmed correctly

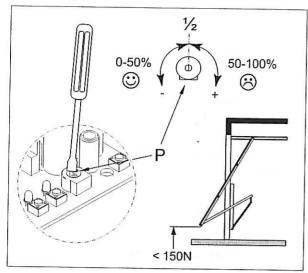
4.5 TEST push button



Each press of the push button moves the door. Press the "TEST" push button -> door moves to its end position. Press the "TEST" push button again, during action the drive stops.

4.6 Setting tractive force



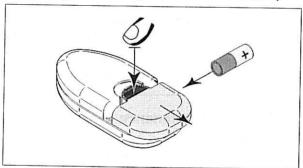


The tractive force is set by a small screwdriver on the control. It must be set so that a counter-pressure of 150 N (approx. 15kg) leads to a reversal of the closing door and stopping of the opening door. The counter-pressure may be simulated by pressing ones hand lightly against the closing garage door.



If the drive power is set so that an effective force of more than 150N arises on the door edge or shearing points before an automatic switch-off takes place an additional safety feature must be provided in the form of a light-sensitive barrier or similar.

4.7 Battery insertion (handheld transmitter)



Remove the handheld transmitter cover by pressing and pulling it back. Replace batteries. Check the battery poles!

5. Control board

See figure 14.1



Delivery state:

Terminals 7 and 8 connected by a wire jumper.

- A. Transformer with thermo-protection
- B. Drive motor
- C. Transformer / motor connection
- D. Hall sensor connection
- E. Lighting
- F. Accessory connection

5.1 Transformer/motor connection (C)

Terminal 1 black

Terminal 2 black

Terminal 3 green

Terminal 4 red

5.2 Accessory connection (F)

Terminal 5 -

Terminal 6 Start

Terminal 7 Photo

Terminal 8 +

6. Connect accessory

6.1 Push buttons /

key-operated push buttons (F)

See figure 14.2



Use only push contacts (make contacts).

Do not connect external power sources.

Connect push button contacts to terminals 5 and 6.

6.2 Safety light-sensitive barrier

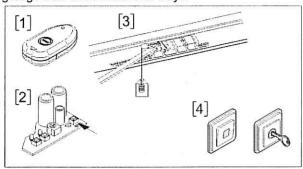
See figure 14.3

When the light beam is interrupted the garage door stops moving immediately. In the "Door shut" direction the hindrance is cleared.

The voltage supply of the transmitter light barrier (TX) and receiver light barrier (RX) is provided at terminal 1 and terminal °2 of the transformer/motor C connection. Connect the receiver light barrier (RX) signal outputs with terminal 7 and terminal 8 of the accessory connection (F), remove the wire jumper.

7. Operation

The garage door may be opened and closed by the garage door drive in several ways:



Handheld transmitter [1] TEST push button [2] Emergency release [3]

Indoor push button / key-operated push button [4] (accessory)

8. How to clear malfunctions oneself

Lighting:

Bulb does not go on:

Replace bulb



Radio system:

Door does not operate via handheld transmitter:

- ♠ Receiver has not learned the handheld transmitter code, repeat teach process

Operating range is unsatisfactory:

Control:

Drive is without voltage supply:

Door does not close:

- ☆ Check that safety devices are working (safety light barrier)

Door stops during action:

(By qualified personnel only!!)

Door reverses during action:

☆Check whether hindrance in path, remove if necessary
☆Increase of tractive force on potentiometer (see chapter 0)

Motor:

Motor is running but the door does not move:

rnning slide must be latched into driver (H) and locked



Malfunctions in the 230 V sector may only be cleared by qualified electricians.

9. Function maintenance

We recommend that you check the entire door system once a year. Check the safety devices and function of the mechanical locking devices every 4 weeks.

The door should not be actuated if repairs or resetting work must be performed as an assembly error or incorrectly balanced door may lead to injury.

10. Dismantling and disposal

On dismantling and disposal please observe the respective local safety and disposal regulations.

11. Technical data

GB

General	
Weight (approx.)	14 kg
Max. tractive / shearing force	500 N
Max. running path	
(3m rail / tilting door)	approx. 2500mm
(3m rail / sectional door)	approx. 2150mm
Max door surface area	6 m ²
(lightweight steel door)	
Drive medium	chain
Minimum module height	35mm

 Operating conditions Working temperature (TÜV) 	+5°C to +40°C
Outside temperature (company	-20°C to 40°C
standard)	
Rated operation time	4 min
Rated work cycle	15000

• Dimensions Total length 3210mm

 Electrical components 	
Mains connection	230 V~ / 50 Hz
Motor rating	110 W
Nominal rating	170 N
Protection class	IP 20
Consumption in stand-by	~ 8W
Integrated lighting	12V/10W
	Bayonet base
	(veh_standard)

 Radio Radio frequency Range (in open areas) Aerial 	433.98 MHz 50 m 17 cm	
 Handheld transmitter 12 V battery 	LR23 Size A23	

12. Available accessories

These accessories may be obtained in specialist stores:

 Accessories for improved user conve 	enience
Article	Order ref.
Handheld transmitter	B 260.50
(max. 4 pieces may be used)	
Indoor push button	KB 3311
Surface-mounted key-operated push button	B 160.15
Flush-mounted key-operated push button	B 160.16

 Accessories for additional safety 	,
Article	Order ref.
Safety light barrier	B 226.90
Additional door locking	BY 2230

 Accessories for special mounting 	conditions
Article	Order ref.
Sectional door fitting	BY 4720
Lock for emergency release	B 146.02

13. Spare parts

Article	Order ref.
Control board with receiver	B 260.00
Motor with gear	B 260.20
Transformer	B 260.21
Cover hood	B 260.67
Light cover	B 260.68
Bulb 12V / 10W	B 139.98

Your notes











Supply of Machinery (Safety) Regulations 1992 EC Declaration of Incorporation Powered Garage Door Operators

The powered garage door operator models listed below are intended to be incorporated with a suitably designed garage door (see matrix below) to provide powered operation. Figures indicate suitability and refer to maximum aperture width (mm) / maximum aperture height (mm) / maximum door weight (kg) respectively.

Door type	Operator suitability	The second second
	Force 50	
Retractable	3000 / 2500 / 65	
Sectional	3000 / 2300 / 65	

Samples of powered door operators of the above types have been tested/checked and found to conform with the provisions of the Machinery Directive (98/37/EC) the Low Voltage Directive (73/23/EEC) and the E.M.C. Directive (89/336/EEC).

A powered door operator must not be put into service until it has been completely and safely assembled and installed, with an appropriate type, size and weight of door, in accordance with the door and operator manufacturer's fitting instructions, using a suitable connection arm and with appropriate safety devices, etc; and not until the complete installation has been declared to be in conformity with the provisions of the Machinery Directive.

The technical files for the operators listed above are held by Cardale Group Ltd and will be made available for inspection by an enforcing authority, should the need arise.

This Declaration is made by:

S. Hobbs, Group R & D Director

Being the responsible person appointed by the manufacturer and employed by:

Cardaie Group Registered Office: Oakfield House, Farm Road, Brackley, Northamptonshire. NN13 7AW

Registered No. 926537 (England)



Declaration of Incorporation

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

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

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

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

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

Note

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



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