



# **Ditec BOX**

IP1529EN  
**Technical Manual**

## Balanced up and over doors

[original instructions]

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## Caption



This symbol indicates instructions or notes regarding safety issues which require particular attention.



This symbol indicates informations which are useful for correct product function.

# 1. General safety precautions



**Failure to respect the information given in this manual  
may cause personal injury or damage to the device.  
Keep these instructions for future reference**

This installation manual is intended for qualified personnel only.

Installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with Good Working Methods and in compliance with the current regulations. Read the instructions carefully before installing the product.

Bad installation could be dangerous.



The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as they are a potential source of danger.

Before installing the product, make sure it is in perfect condition.

Do not install the product in explosive areas and atmospheres: the presence of inflammable gas or fumes represents a serious safety hazard.

Before installing the motorisation device, make all the necessary structural modifications to create safety clearance and to guard or isolate all the crushing, shearing, trapping and general hazardous areas.

Make sure the existing structure is up to standard in terms of strength and stability. The motorisation device manufacturer is not responsible for failure to observe Good Working Methods when building the frames to be motorised, or for any deformation during use.

The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account: applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the motorised door or gate.

The safety devices must protect against crushing, cutting, trapping and general danger areas of the motorised door or gate.

Display the signs required by law to identify hazardous areas.



Each installation must bear a visible indication of the data identifying the motorised door or gate.

When necessary, connect the motorised door or gate to an effective earthing system that complies with the current safety standards.

During installation, maintenance and repair operations, cut off the power supply before opening the cover to access the electrical parts.

The automation protection casing must be removed by qualified personnel only.



The electronic parts must be handled using earthed antistatic conductive arms. The manufacturer of the motorisation declines all responsibility if component parts not compatible with safe and correct operation are fitted.

Only use original spare parts for repairing or replacing products.

The installer must supply all information concerning the automatic, manual and emergency operation of the motorised door or gate, and must provide the user with the operating instructions.

## 2. Declaration of incorporation of partly completed machinery

(Directive 2006/42/EC, Annex II-B)

The manufacturer Entrematic Group AB, with headquarters in Lodjursgatan 10, SE-261 44 Landskrona, Sweden, declares that the automation for balanced up and over door type Ditec BOX:

- is designed to be installed on a manual gate to form a machine pursuant to Directive 2006/42/EC. The manufacturer of the motorised gate must declare conformity with Directive 2006/42/EC (annex II-A) prior to initial machine start-up;
- conforms to the applicable essential safety requirements indicated in ANNEX I, Chapter 1 of the Directive 2006/42/EC;
- conforms to the Low Voltage Directive 2006/95/EC;
- conforms to the Electromagnetic Compatibility Directive 2004/108/EC;
- conforms to the R&TTE Directive 1999/5/EC;
- the technical documentation conforms to Annex VII-B of the Directive 2006/42/EC;
- the technical documentation is managed by Marco Pietro Zini with headquarters in Via Mons. Banfi, 3 - 21042 Caronno Pertusella (VA) - ITALY;
- a copy of technical documentation will be provided to national competent authorities, following a suitably justified request.

Landskrona, 13-01-2013

Marco Pietro Zini  
(Entrance Automation President)



### 2.1 Machinery Directive

Pursuant to Machinery Directive (2006/42/EC) the installer who motorizes a door or gate has the same obligations as the manufacturer of machinery and as such must:

- prepare the technical file which must contain the documents indicated in Annex V of the Machinery Directive;  
(The technical file must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorized door);
- draw up the EC Declaration of Conformity in accordance with Annex II-A of the Machinery Directive and deliver it to the customer;
- affix the EC marking on the motorized door in accordance with point 1.7.3 of Annex I of the Machinery Directive.

### 3. Technical data

BOX3EH	
Power supply	24 V $\overline{\text{=}}$
Absorption	8 A
Torque	300 Nm
Opening time	15+30 s
Weight	11,40 kg
Service class	3 - FREQUENT
Intermittence	S2 = 30 min S3 = 50%
Temperature	min -20° C max +55° C
Degree of protection	IP44 IP40 (with E1HBOX)
Control panel	E1HBOX
Applications	
H = door height	
L = door width	
<p>1x BOX</p> <p>2x BOX</p>	

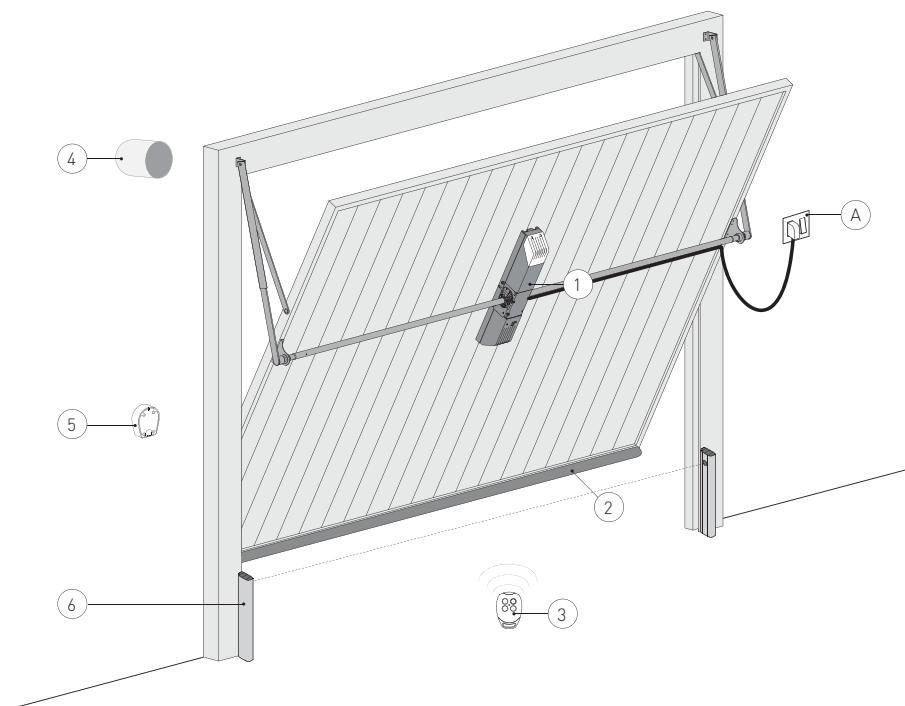
#### 3.1 Operating instructions

Service class: 3 (minimum 30 cycles a day for 10 years or 60 cycles a day for 5 years).

Use: FREQUENT (For vehicle or pedestrian accesses to town houses or small condominiums with frequent use).

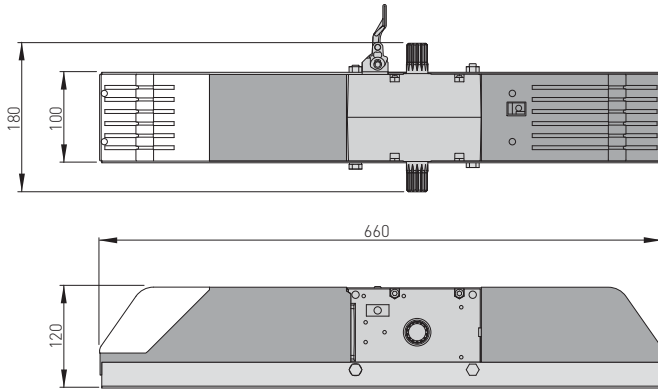
- Performance characteristics are to be understood as referring to the recommended weight (approx. 2/3 of maximum permissible weight). A reduction in performance is to be expected when the access is made to operate at the maximum permissible weight.
- Service class, running times, and the number of consecutive cycles are to be taken as merely indicative having been statistically determined under average operating conditions, and are therefore not necessarily applicable to specific conditions of use. During given time spans product performance characteristics will be such as not to require any special maintenance.
- The actual performance characteristics of each automatic access may be affected by independent variables such as friction, balancing and environmental factors, all of which may substantially alter the performance characteristics of the automatic access or curtail its working life or parts thereof (including the automatic devices themselves). When setting up, specific local conditions must be duly borne in mind and the installation adapted accordingly for ensuring maximum durability and trouble-free operation.

## 4. Standard installation

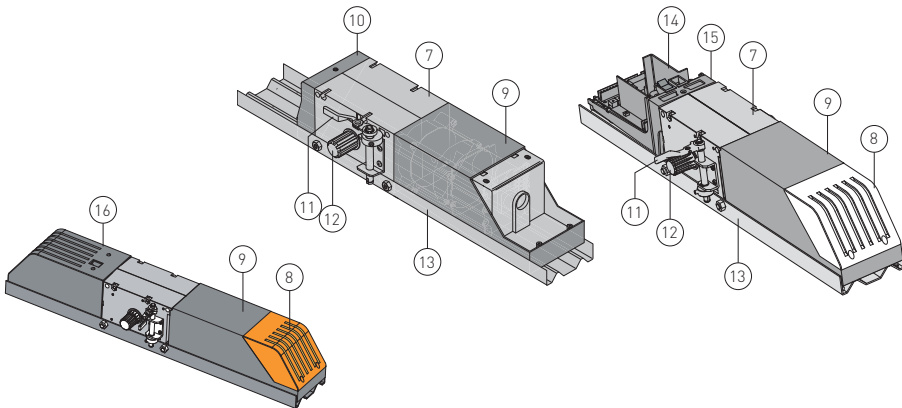


Ref.	Code	Description
1	BOX3EH	DC irreversible actuator with control panel incorporated
2	SOF	Safety edge
3	GOL4	Transmitter
4	LAMP LAMPH	Flashing light
5	XEL5 GOL4M	Key selector Codified via radio control keyboard
6	XEL2 LAB4	Photocells Photocells IP55
A		Connect the power supply to an approved omnipolar switch with an opening distance of the contacts of at least 3mm (not supplied). The connection to the mains must be made via an independent channel, separated from the connections to command and safety devices.

## 5. Dimensions



## 6. Main components



Ref.	Code	Description
7		Gearmotor
8		Courtesy light
9		Casing
10		Bottom casing
11		Manual release
12		Gearmotor shaft
13		Base plate
	<b>BOXSL</b>	Base platee L=2500
14	<b>E1HBOX</b>	BOX3EH's control panel
15		Control panel support
16		Control panel casing



# 7. Installation

The given operating and performance features can only be guaranteed with the use of DITEC accessories and safety devices. Unless otherwise specified, all measurements are expressed in millimetres (mm).

## 7.1 Preliminary checks

Check the dimensions, balancing and condition of the door, the type of installation, the use limits of the gearmotor and the necessary accessories.

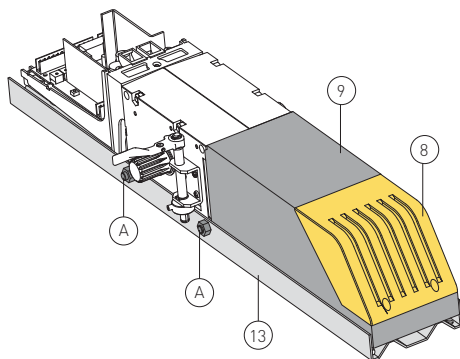
## 7.2 Base plate fastening

- Remove the automation from its packaging.

**ATTENTION:** the plastic parts are inserted but not fixed.

- Remove the courtesy light plastic [8] and the casing [9] and separate the gearmotor from the base plate [13] by unscrewing the screws A.

**ATTENTION:** the bulb is not fixed in position. Handle with care.



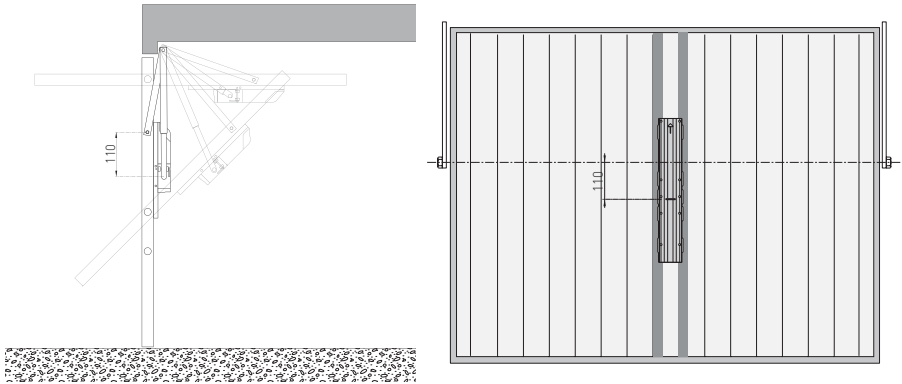
- Fix the base plate [13] to the door, respecting the measurements indicated on page 10.

**ATTENTION:** arrange a solid fastening surface for the gearmotor at the height of the frame of the up and over door.

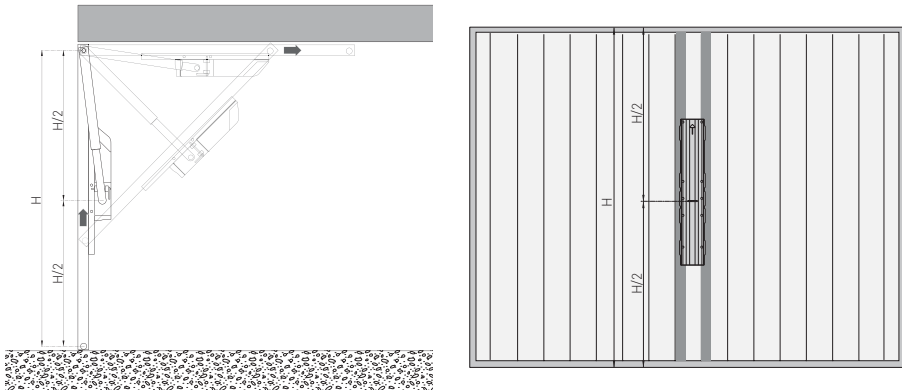
If using the BOXSL base plate:

- fix the BOXSL on the up and over door;;
- insert the gearmotor with the base plate [13] on the BOXSL and fasten it with the 2 screws supplied.

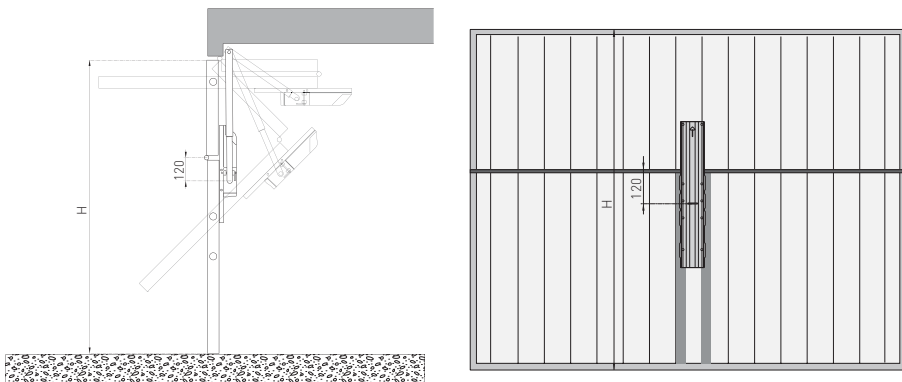
### Standard balancing door



### Totally concealing balancing door

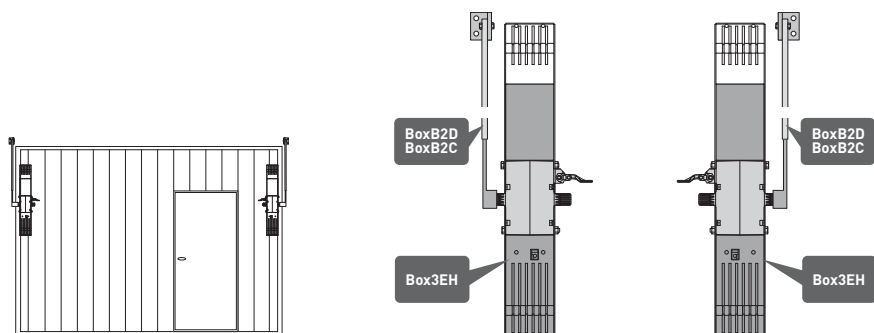
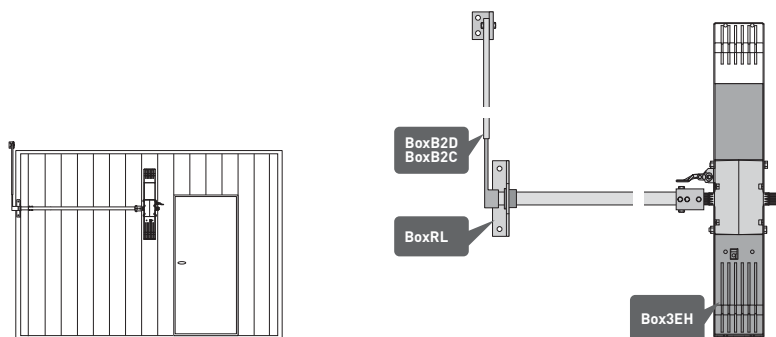
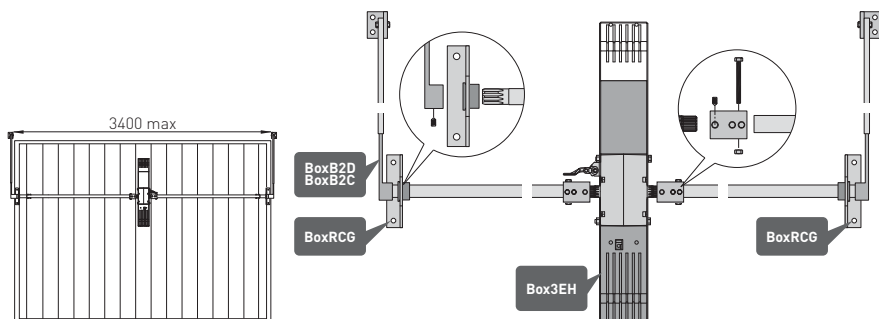


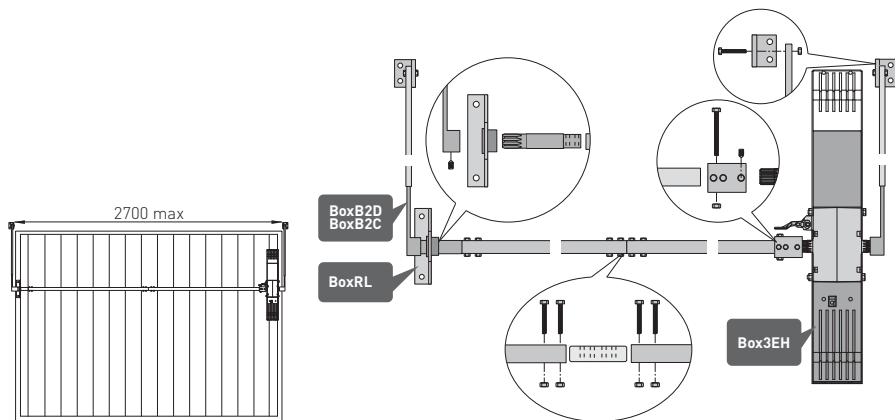
### Articulated panel balancing door



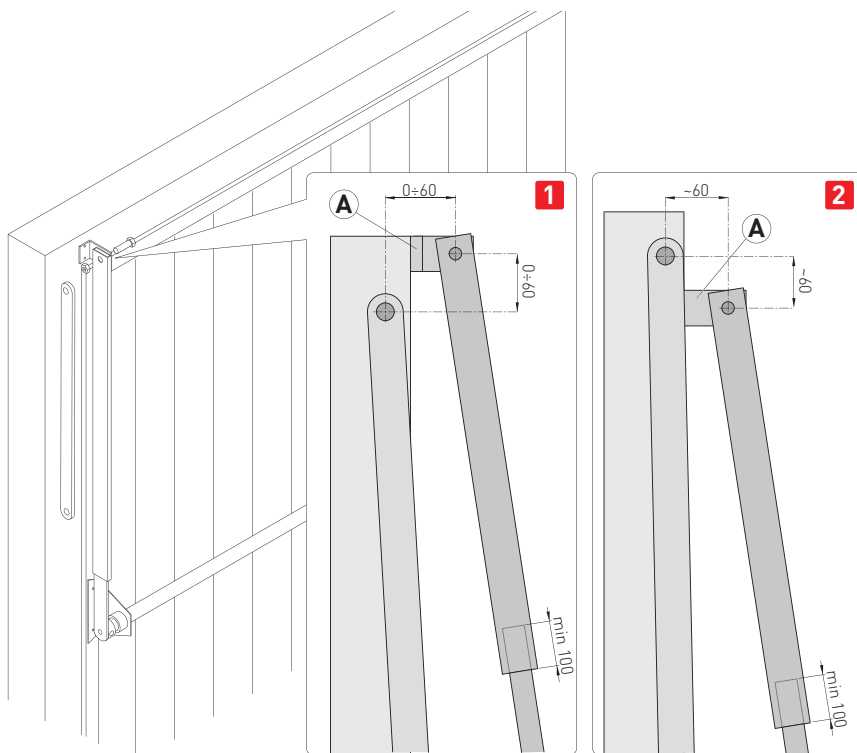
## 7.3 Geared motor installation

- Fix the gearmotor to the base plate and the accessories as shown in the examples.








For up and over doors with  $L > 2700\text{mm}$ , it is necessary to extend the transmission shaft, using the accessories BOXA (pole) and BOXG (coupling for poles).  
If the arms are not long enough, use the extensions BOX2P.



- [1] Fix the corner-joint [A] onto the upper frame of the up and over door, in line with the motor arm.  
 [2] If the corner-joint [A] cannot be fixed onto the upper frame of the door, respect the dimensions shown in the figure.

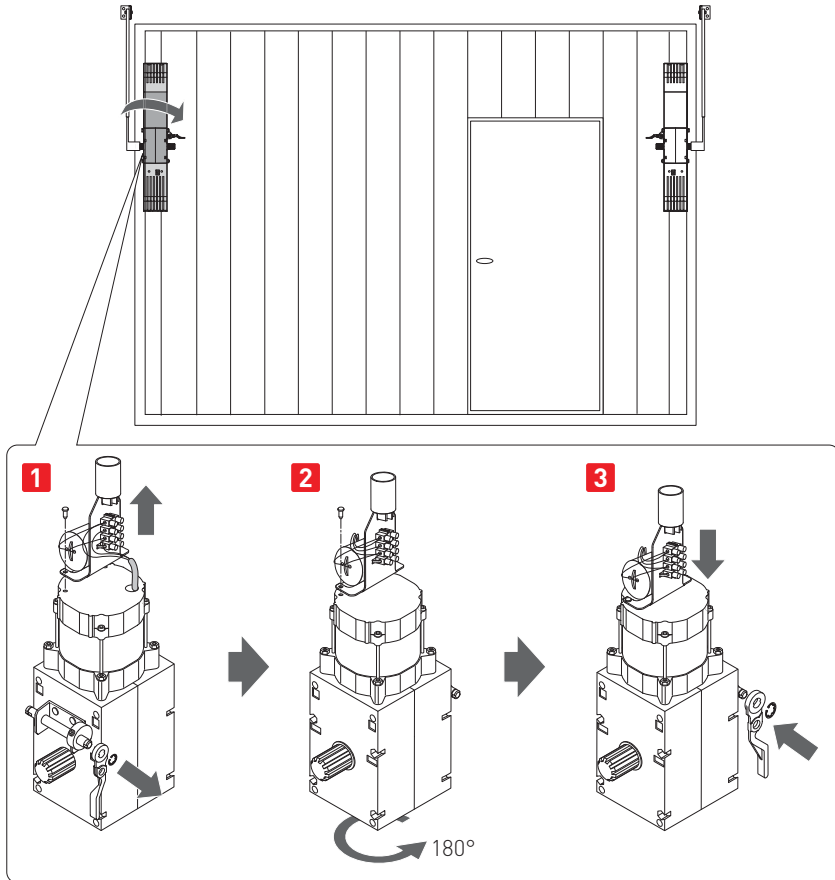
- 
**WARNING:** the dimensions of the poles, the position of the transmissions and the wall coupling for the corner-joint [A] must be calculated so that the motor arms do not collide with the support arms of the door.
- 
**If the BoxB2D straight arms collide with the support arms of the door, use the BoxB2C curved arms.**
- 
**WARNING:** check that when the door is open, the BoxB2C curved arms do not protrude and touch the ceiling.

After installing the motor(s) on the up and over door, release the motor and check the door can be easily moved by hand.

If the door is unbalanced, the weight of the counterweights must be increased/reduced until the frame is fully balanced.

## 7.4 Installing the left-hand gearmotor

In the event of left-hand side assembly, it is necessary to rotate the gearmotor 180° so that the release shaft is pointing towards the centre of the up and over door.



- [1] Disassemble the snap ring, unthread the lever and disassemble the upper bracket.
- [2] Rotate the gearmotor 180°.
- [3] Thread the lever (also rotated 180°) back on, then fasten the snap ring back on and reassemble the upper bracket.



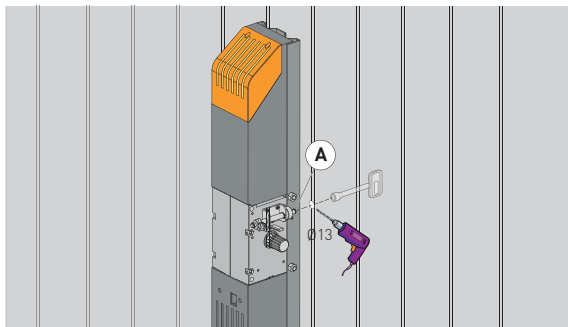
**WARNING:** The BOX3H geared motor is supplied for left side mounting together with the BOX3EH geared motor.

## 7.5 Manual release


To release the gearmotor from the outside, drill a  $\varnothing 13$  hole in the tilting door in line with the release pin A and release using the supplied key.




**NOTE:** The gearmotor can also be released using the BoxSBC-BoxSBI accessories. For more information, refer to the relevant installation manuals.



## 8. Electrical connections

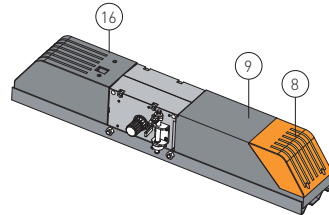
 Before connecting the power supply, make sure the plate data correspond to that of the mains power supply. An omnipolar disconnection switch with minimum contact gaps of 3 mm must be included in the mains supply. Check that upstream of the electrical installation there is an adequate residual current circuit breaker and a suitable overcurrent cutout.

	<b>Box3EH-3H</b>
<b>Control panel</b>	E1HBOX

 The electrical connections and starting of the gearmotor are illustrated in the control panel installation manual.

## 9. Automation closure

- Insert the casing [9] and fix it using the supplied screws.
- Screw the bulb into the bulb support.
- Fix the courtesy light casing [8] using the supplied screws.
- Drill a hole in the control panel casing for the wiring. Fix the cable gland fastening bracket.
- Fix the casing [16] to the control panel.



## 10. Routine maintenance plan


Perform the following operations and checks every 6 months according to intensity of use of the automation.

Without power supply and batteries if present:

- Clean and lubricate the moving parts, using neutral grease.
- Check the stability of the automatic system and make sure that all screws are correctly tightened.
- Check the resistance of the fixing points.
- Check the value of the capacity of the motor condenser.

Reconnect the 230 V~ power supply and batteries if present:


- Check the power adjustment.
- Check that all commands and safety functions (photocells) are operating correctly.
- Check the batteries are working (continuously) if present, by removing the power supply and making a series of operations. Once performed, turn on power supply again.

 **WARNING:** For spare parts, see the spares price list.



# Operating instructions

## General safety precautions for the user

 These precautions are an integral and essential part of the product and must be supplied to the user.

Read them carefully since they contain important information on safe installation, use and maintenance.

These instructions must be kept and forwarded to all possible future users of the system.

This product must only be used for the specific purpose for which it was designed. Any other use is to be considered improper and therefore dangerous.

The manufacturer cannot be held responsible for any damage caused by improper, incorrect or unreasonable use.

Avoid operating in the proximity of the hinges or moving mechanical parts. Do not enter within the operating range of the motorised door or gate while it is moving.

Do not obstruct the motion of the motorised door or gate, as this may cause a dangerous situation.

The motorised door or gate may be used by children over the age of 8 and by people with reduced physical, sensorial or mental abilities, or lack of experience or knowledge, as long as they are properly supervised or have been instructed in the safe use of the device and the relative hazards.

Do not allow children to play or stay within the operating range of the motorised door or gate.

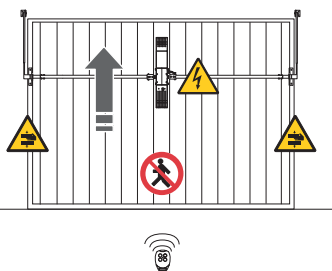
Keep remote controls and/or any other command devices out of the reach of children, to avoid any accidental activation of the motorised door or gate.

In the event of a product fault or malfunction, turn off the power supply switch. Do not attempt to repair or intervene directly, and contact only qualified personnel.

Failure to comply with the above may cause a dangerous situation.

Any repair or technical intervention must be carried out by qualified personnel.


Cleaning and maintenance work



must not be carried out by children unless they are supervised.  
To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and only qualified personnel must perform routine maintenance on the motorised door or gate. In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.

All installation, maintenance and repair work must be documented and made available to the user.

Only lock and release the door wings when the motor is switched off. Do not enter within the operating range of the wing.

 To dispose of electrical and electronic equipment correctly, users must take the product to special "recycling centres" provided by the municipal authorities.

## Manual release instructions

In the event of a fault or an interruption in the power supply, insert the key supplied [C] and turn it anticlockwise, or move the lever [D] as shown in the figure.

Move the tilting door manually.

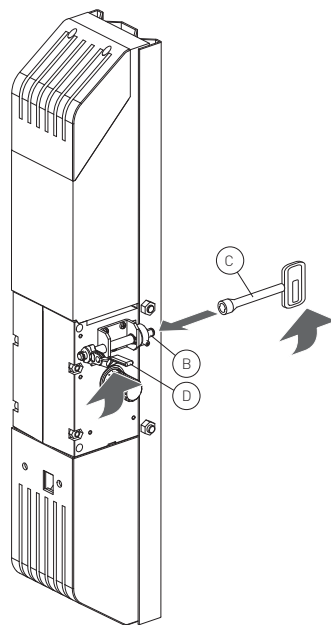
To block the up and over door again, bring the lever [D] back to its original position.



**WARNING:** the door wing block and release operations must be performed with the motor idle.



**N.B.:** The gearmotor can also be released using the BoxSBC-BoxSBI accessories. For more information, refer to the relevant installation manuals.



Installer's stamp	Operator
	Date of intervention
	Technician's signature
	Customer's signature

Intervention performed \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



For any problems and/or information, contact the Technical Service.

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