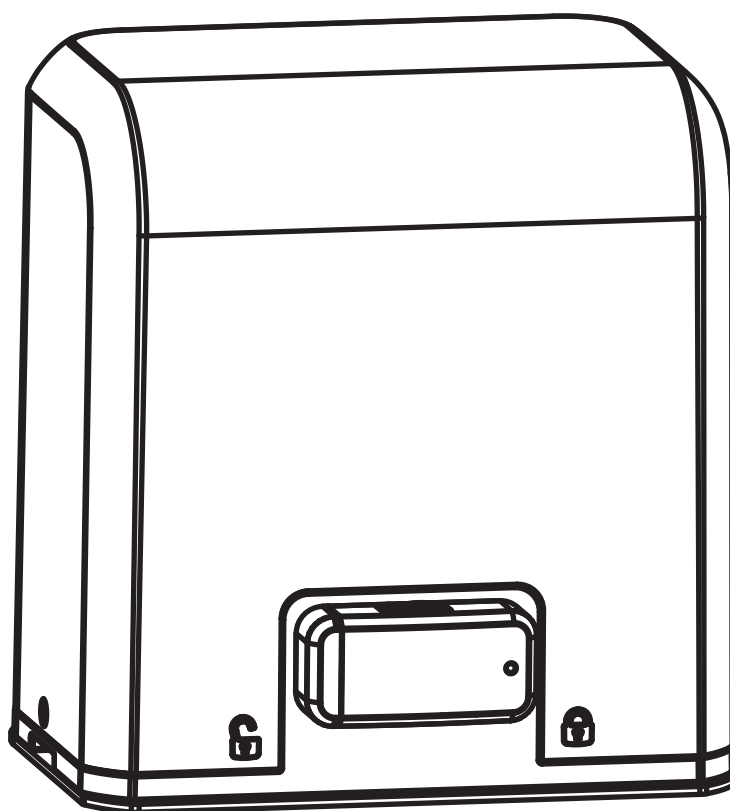


BOXERE SERIES

SLIDING GATE OPENERS

24V DC MOTOR
FOR RESIDENTIAL
USER MANUAL



Reuse
Reduce
Recycle



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1. GENERAL PRECAUTION:

WARNING :

This user manual is only for qualified technicians who is specialized in installations and automations.

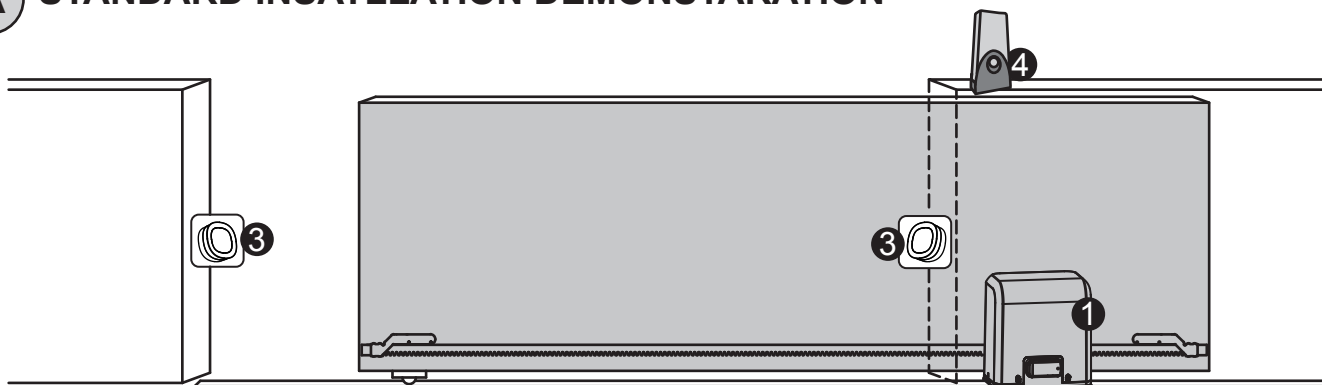
- (1) All installations, electrical connections, adjustments and testing must be performed only after reading and understanding of all instructions carefully.
- (2) Before carrying out any installation or maintenance operation, disconnect the electrical power supply by turning off the magneto thermic switch connected upstream and apply the hazard area notice required by applicable regulations
- (3) Make sure the existing structure is up to standard in terms of strength and stability
- (4) When necessary, connect the motorized gate to reliable earth system during electricity connection phase.
- (5) Installation requires qualified personnel with mechanical and electrical skills.
- (6) Keep the automatic controls (remote, push bottom, key selectors...etc) being placed properly and away from children.
- (7) For replace or repair of the motorized system, only original parts must be applied. Any damage caused by inadequate parts and methods will not be claimed to motor manufacturer.
- (8) Never operate the drive if you have any suspect with what it might be faulty or damage to the system.
- (9) The motors are exclusively designed for the gate opening and closing application, any other usage is deemed inappropriate. The manufacture should not be liable for any damage resulting from the improper use. Improper usage should void all warranty, and the user accepts sole responsibility for any risks there by may accrue.
- (10) The system may only be operated in proper working order. Always follow the standard procedures by following the instructions in this installation and operating manual.
- (11) Only command the remote when you have a full view of the gate.

TMT AUTOMATION INC. shall not be liable for any injury, damage, or any claim to any person or property which may result from improper use or installation of this system.

Please keep this installation manual for future reference.

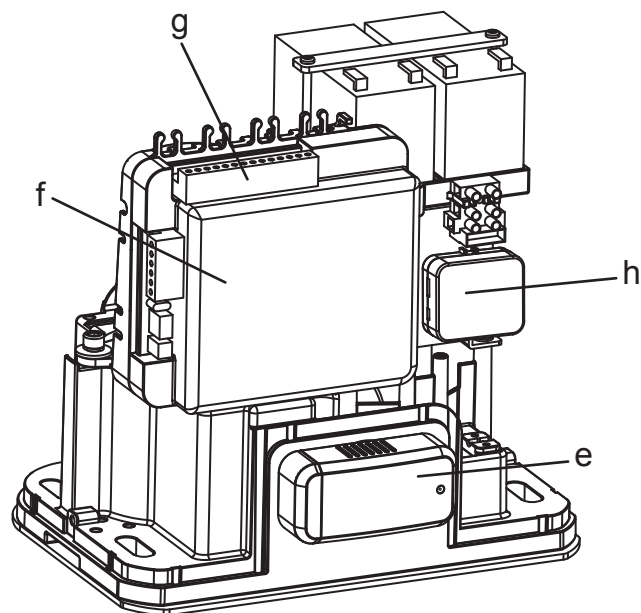
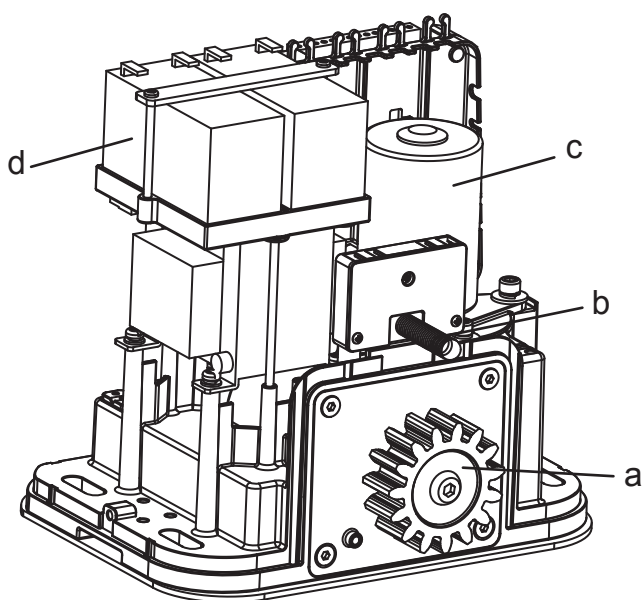
2. INSTALLATION:

A STANDARD INSATLLATION DEMONSTARATION



- 1. 24Vdc Sliding motor
- 2. Transmitter
- 3. safety photo Sensor
- 4. Flashing light

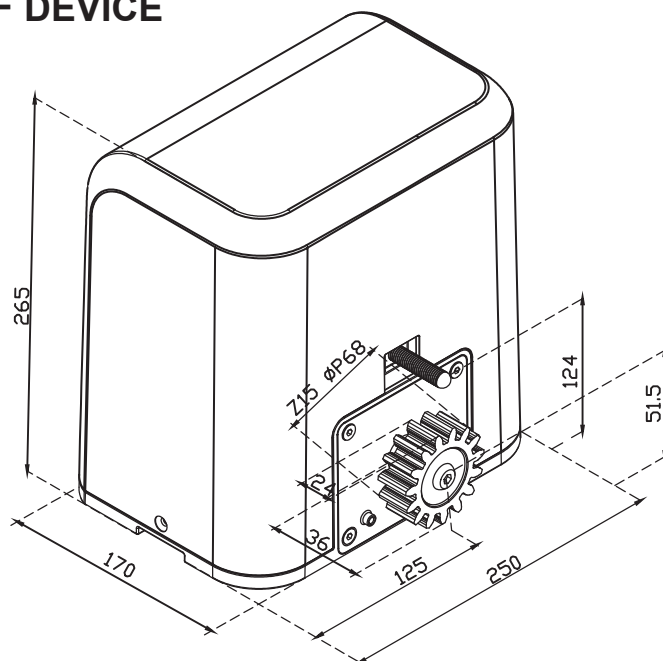
B DESCRIPTION OF DEVICE



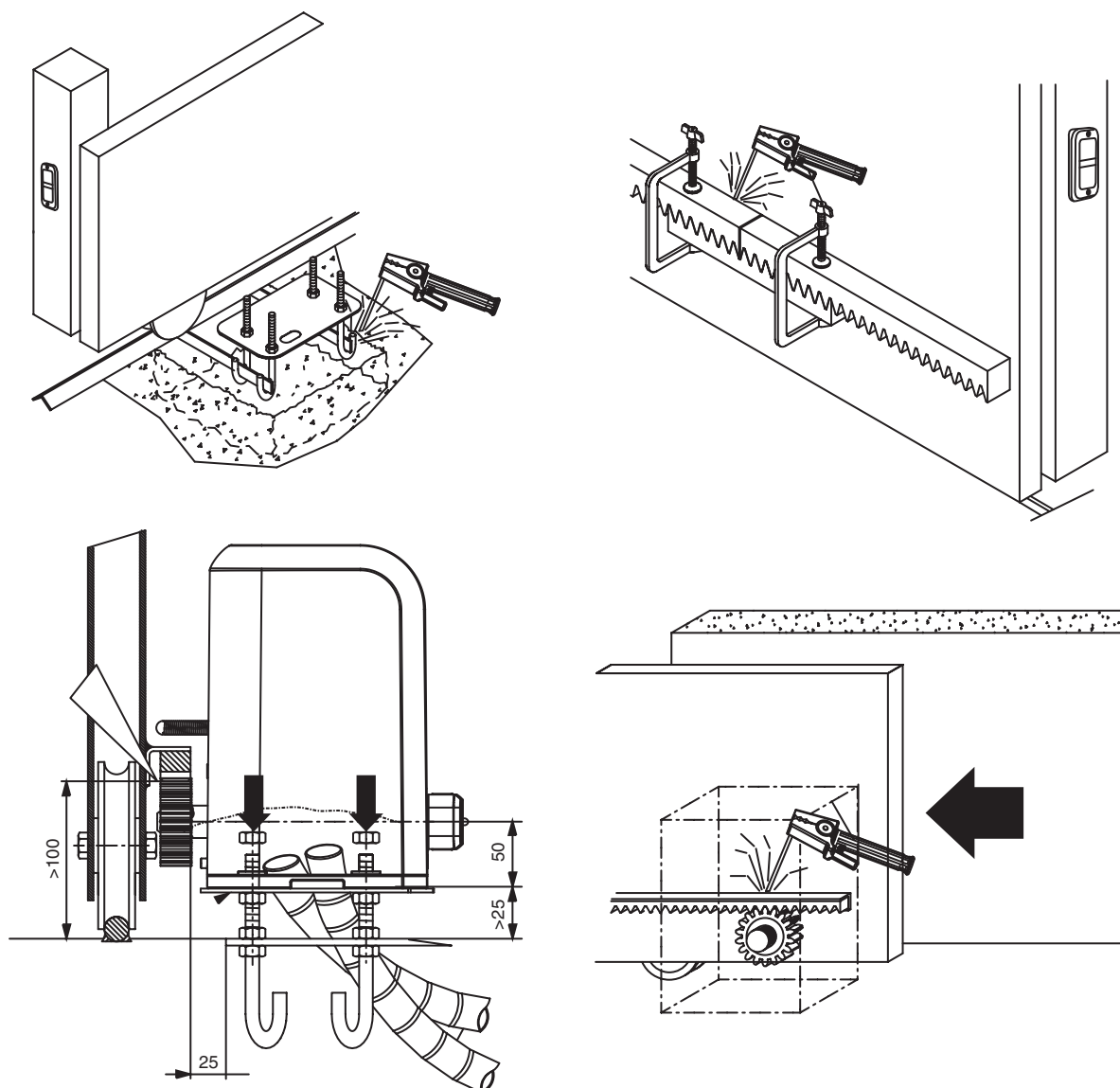
- a. Operation gear
- b. Limit switch device
- c. 24Vdc motor
- d. Back-up batteries (Optional)

- e. Release device
- f. Control panel
- g. Terminals of devices
- h. Green Box (Optional)

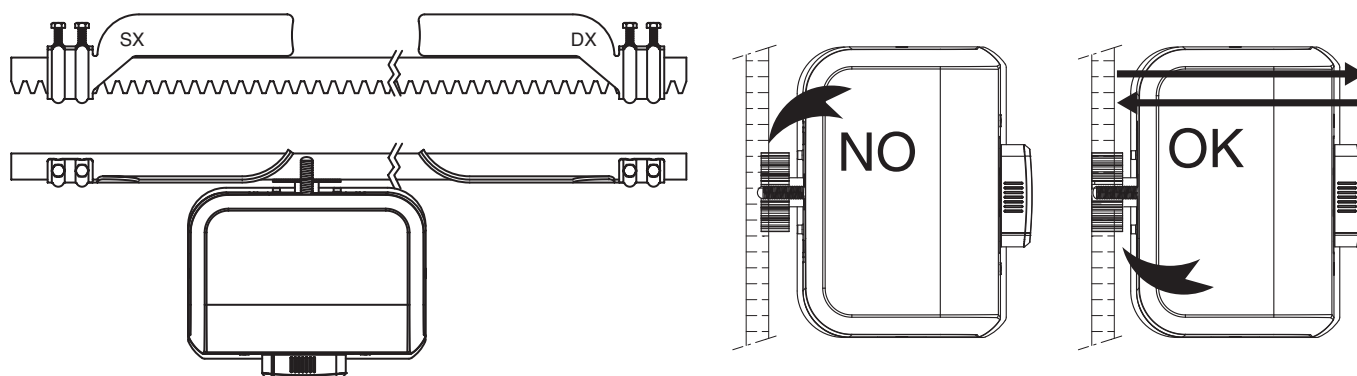
C DIMENSION OF DEVICE



D INSTALLATION OF MOTOR GEAR AND GEAR RACK



E CHECKING FOR INSTALLATION



F EMERGENCY RELEASE

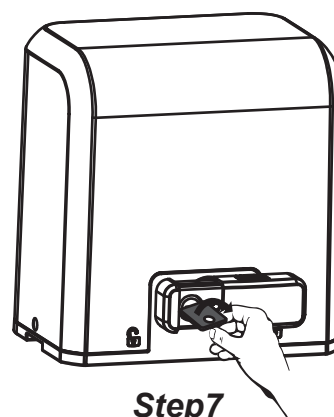
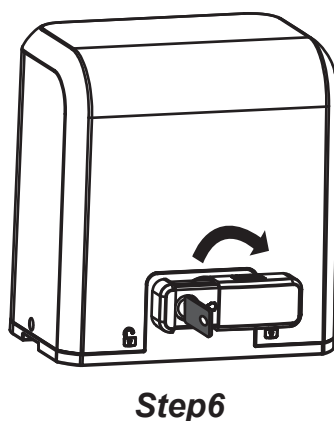
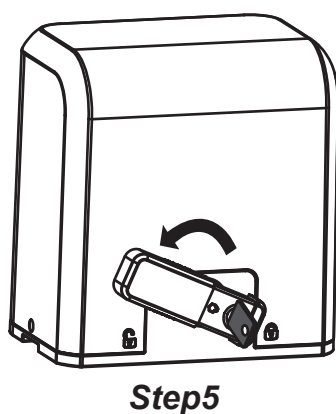
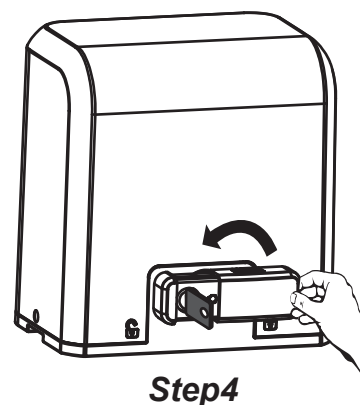
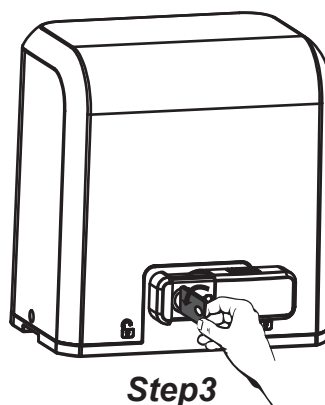
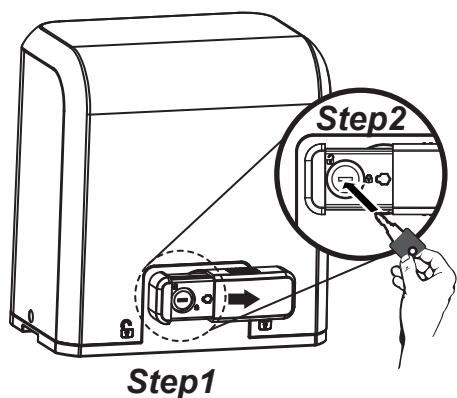
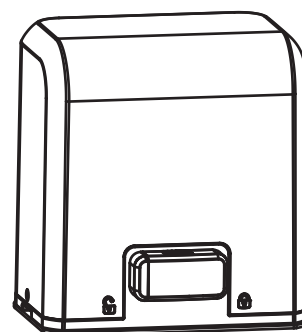
In the case of power failure for emergency release of the motor, please follow the procedure as below:

Step1. Push the lid of release chamber and move rightward

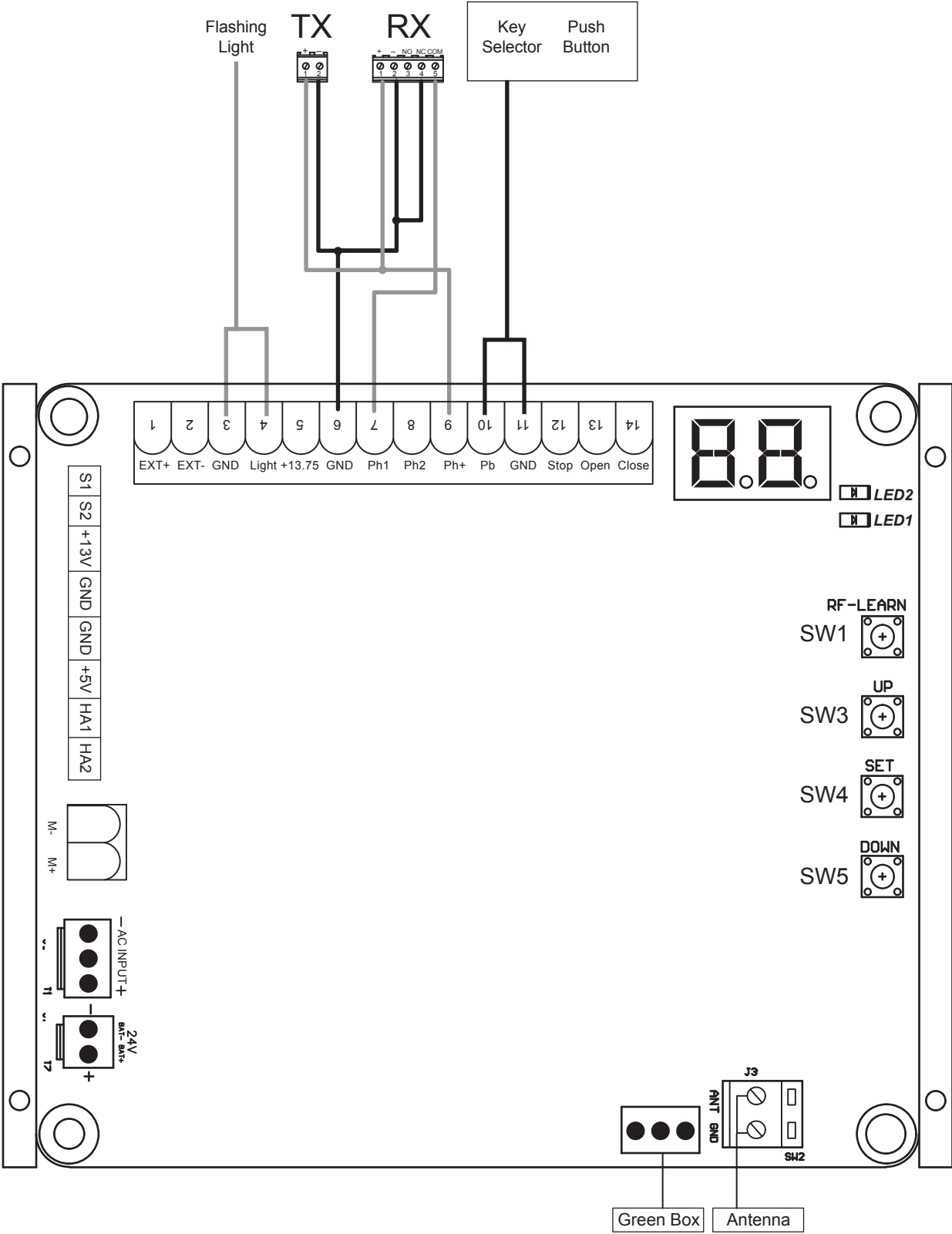
Step2. Insert the key and turn clockwise to unlock the device

Step3. Turn counter-clockwise of the bar to release the motor

To restore the automation, simply reverse the above procedure.



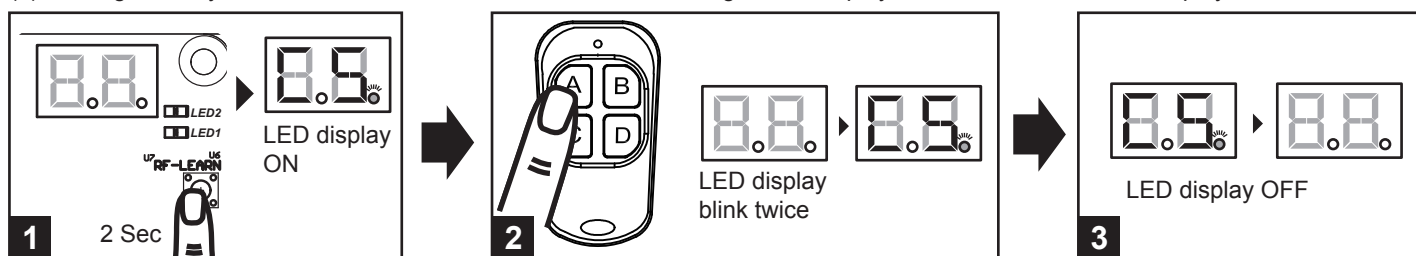
A WIRE CONNECTION



B TRANSMITTER MEMORIZING AND ERASING PROCESS

(1) Transmitter Memorizing: Press "RF Learn" button for 2 seconds, and the LED display shows "CS"; then press the transmitter left button (A); the LED display will blink twice and then be off. The transmitter learning is completed. **1 2 3**

(2) Erasing Memory: Press "RF Learn" button for 5~6 seconds as right LED display is on, then wait for LED display off.



C SYSTEM LEARNING, RESET PROCESS, AND LED DISPLAY

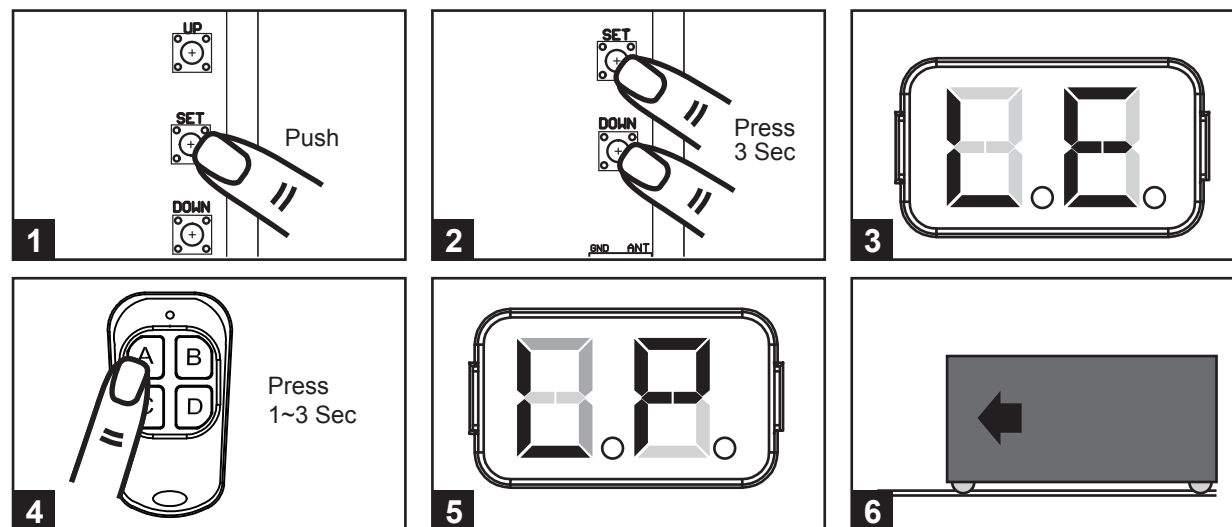
! CAUTION: Before proceeding to system learning, the transmitter memorizing process has to be completed.

(1) To Complete the System Learning:

Step1: Press "SET"; then press "SET" + "DOWN" for 3 seconds, and the LED display shows "LE" **1 2 3**

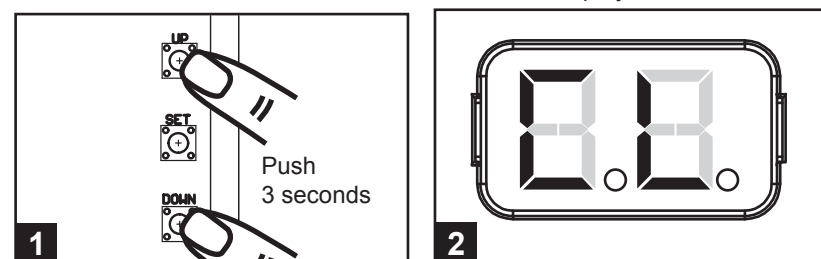
Step2: Press left button (A) on time, the LED display should show "LP" **4 5**

Step3: The gate goes to Auto-learning, please wait for the learning process to be completed **6**



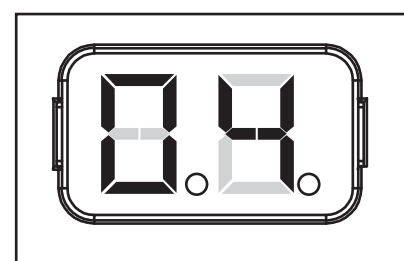
(2) To Reset Factory Setting:

Press UP and DOWN for 3 seconds, and the LED display shows "CL"



(3) Motor current auto-detection

The LED display shows the current consumption of the motor



"0.4" : During the system learning procedure, the control panel will automatically detect the current consumption from each motor, indicate the resistance level of the gate while the motor operation. If this reading increase instantly or stay in high reading, please check if any object in between of the gate moving area, and contact your installer for inspection.

LED Display	Programmable Functions
	"L": The system learning is not done.
	"OP": The system is in normal operation To program, press SET button for 3 seconds, when the LED display change from OP to 1, press UP or DOWN to change function settings (1 to P). Then press SET to enter the sub function within each group, press UP or Down to select sub functions and press SET for confirmation.

LED Display	Programmable Functions
	"LE": Enter learning mode and then wait for learning instructions.
	"LP": The system learning is in progress. The Auto-learning process of gate moving: "Gate open to the end- stop close to the end- stop."
	"CL": Reset Factory Setting.

D HOW TO SET THE PARAMETER:

Step 1: Press the "Set" key for 3 seconds, the display will show the function code.

Step 2: Choosing the setting by Up and Down keys, after having chosen the indicated item, press the Set key and enter the setting of this function. The second digit will be shown on the right of the display, indicating the related function (please refer below chart for details). Using the Up and the Down Keys to choose the setting function and press the Set key to save.

E PROGRAMMABLE FUNCTION SETTINGS

LED Display	Definition	Function	Value	Description
1	Options of Gate Opening direction	1-1	Clockwise Opening	1. The function can adjust the direction of gate opening.
		1-2	Counterclockwise Opening	2. The factory setting is "1-1".
2	Automatic Closing	2-0	No automatic closing	1. This function can cause the gate to close automatically after the paused time.
		2-1	5 seconds	2. The factory setting is "2-2": 15 Secs as the pause time.
		2-2	15 seconds	
		2-3	30 seconds	
		2-4	45 seconds	
		2-5	60 seconds	
		2-6	80 seconds	
		2-7	120 seconds	
		2-8	180 seconds	
3	There actions of the photocells / safety edge / loop detector when they detecting obstacles	3-1	Please the function setting after 8	1. Please do the function setting after H & J
		3-2		2. The factory setting is "3-1".
		3-3		
4	Motor Speed (% full speed)	4-1	50% Learning Speed	1. The function can adjust the running speed of motor.
		4-2	70% Learning Speed	2. The factory setting is "4-4".
		4-3	85% Learning Speed	
		4-4	100% Learning Speed	
5	The deceleration setting for gate moving	5-1	75% of full distance	1. The factory setting is "5-1".
		5-2	80%	
		5-3	85%	
		5-4	90%	
		5-5	95%	
6	Deceleration Speed (% full speed)	6-1	80%	1. The factory setting is "6-4"
		6-2	60%	
		6-3	40%	
		6-4	25%	
		6-5	10%	

LED Display	Definition	Function	Value	Description
7	Over current setting	7-1	2A	1. The function can adjust the running force of motor to be compatible with the gate weight. 2. The factory setting is "7-5".
		7-2	3A	
		7-3	4A	
		7-4	5A	
		7-5	6A	
		7-6	7A	
8	Open Partially (Pedestrian mode)	8-1	3seconds	1. The function can adjust the time of opening partially. 2. The factory setting is "8-2".
		8-2	6seconds	
		8-3	9seconds	
		8-4	12seconds	
		8-5	15seconds	
		8-6	18seconds	
9	Pre-flashing	9-0	The flashing light blinks when the gate starts to move.	1. The factory setting is "9-0".
		9-1	The flashing light blinks 3 seconds before the gate starts to move.	
A	Over current reverse setting	A-0	Stop	1. The factory setting is "A-3". 2. The reverse function only operate 3 times and then stop. 3. If gate reverses, the auto close function will be cancelled.
		A-1	Reverse 1 second	
		A-2	Reverse 3 second	
		A-3	Reverse to the end	
C	Open-stop-close-stop function key	C-1	A key	1. The factory setting is "C-1".
		C-2	B key	
		C-3	C key	
		C-4	D key	
E	Open Partially function key	E-0	No function in transmitter	1. The factory setting is "E-2".
		E-1	A key	
		E-2	B key	
		E-3	C key	
		E-4	D key	
F	External device control function key	F-0	No function in transmitter	1. The factory setting is "F-3".
		F-1	A key	
		F-2	B key	
		F-3	C key	
		F-4	D key	
H	Photocell 1 function	H-0	Close	1. The factory setting is "H-0".
		H-1	Open	
J	Photocell 2 function	J-0	Close	1. The factory setting is "J-0".
		J-1	Open	
L	Emergency Stop Button	L-0	Close	1. The factory setting is "L-0".
		L-1	Open	
P	Remote Logic	P-1	Open-Stop-Close-Stop	1. The factory setting is "P-1".
		P-2	Open-Stop-Close	

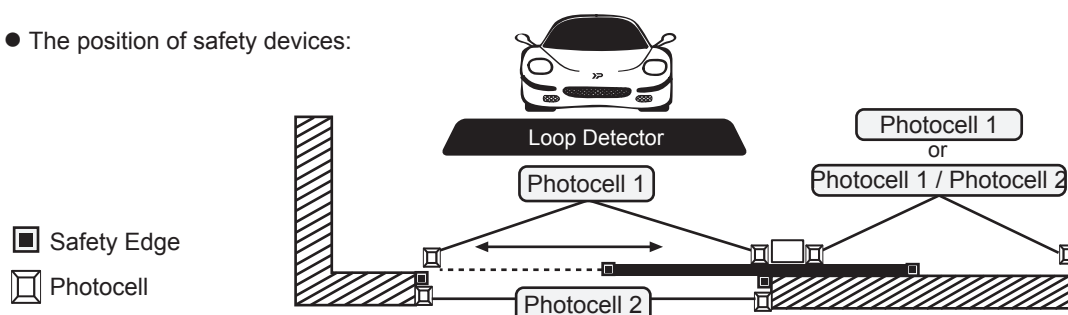
- F3 function settings:

Logic F3-1 The reactions of the photocells when detecting obstacles			
Gate Status	Photocell 2	Photocell 1	Photocell 1/ Photocell 2
Closed	Stop opening	No effect	Stop opening
Open	No effect	Reloads automatic closing time	
Stop during moving	Stop opening	Reloads automatic closing time	
Closing	No effect	Open	Locks and, on release, reverses to open
Opening	Closes the leaf	No effect	Locks and, on release, continues opening

Logic F3-2 The reactions of the safety edge/ photocell when detecting obstacles		
Gate Status	Safety Edge	Photocell 1
Closed	Stop opening	No effect
Open	Reloads automatic closing time	
Stop during moving	Stop opening/ closing	Reloads automatic closing time
Closing	Reverses to open for 2 seconds	Open
Opening	Reverses to close for 2 seconds	No effect

Logic F3-3 The reactions of the loop detector/ photocell when detecting obstacles		
Gate Status	Loop Detector	Photocell 1
Closed	Open	No effect
Open	Reloads automatic closing time	
Stop during moving	Open	Reloads automatic closing time
Closing	Open	Open
Opening	Open	No effect

- The position of safety devices:



F TESTING AND CHECKING

Make sure the notices included in 1.1 General safety precaution “WARNINGS” has been carefully observed.

- Release the gearmotor with the proper release key.
- Make sure the gate can be moved manually during opening and closing phases with a force of max. 390N (40 kg approx.)
- Lock the gearmotor.
- Using the Key selector switch, push button device or the radio transmitter, test the opening, closing and stopping of the gate and make sure that the gate is in the intended direction.
- Check the devices one by one (photocells, flashing light, key selector, etc.) and confirm the control unit recognizes each device.

G RECOGNITION OF LED

LED Indication	Descriptions
LED1 Photocells	LED1 will be on when the first pair of the photocells are activated.
LED2 Photocells	LED2 will be on when the second pair of the photocells are activated.

4. Technical Characteristics:

A TECHNICAL DATA SHEET OF SERIES

Motor	BOXER500E	BOXER800E
Gear type	Worm Gear	Worm Gear
Peak thrust	5500N	8500N
Nominal thrust	5000N	8000N
Engine RPM	3800RPM	2600RPM
Absorbed Power	100W	144W
Power supply	24 Vdc	24 Vdc
Nominal input power	3A	3A
Maximum gate weight	Up to 500 KG	Up to 800 KG
Maximum gate length	6M	8M
Maximum operating current	5.5A for Maximum 10 secs	5.5A for Maximum 10 secs
Operating Temperature	-20°C~+50°C	-20°C~+50°C
Dimension LxWxH mm.	250*170*265mm	250*170*265mm
Weight	8kg	9.5kg
Speed	27.10 cm/s	18.55 cm/s

B H2 PHOTOCELL DATA SHEET

Detection type	Through beam
Operating distance	15 meters
Response time	100ms
Input voltage	AC/DC 12~24V
Operating Temperature	-20°C~+60°C
Protection class	IP54
Dimension	96mm * 45mm * 43mm

C TM3 TRANSMITTER DATA SHEET

Application	Radio transmitter
Frequency	433.92Mhz
Coding	Rolling code
Buttons	4, for single-gate or dual-gate operation
Power Supply	3V with one CR2032 button type lithium battery
Operating Temperature	-20°C~+50°C
Dimension	71.5mm * 33mm * 14mm

D FL2 FLASHING LIGHT DATA SHEET

Application	For outdoor use
Installation	Wall mounted vertically
Operating Temperature	-20°C~+50°C
Dimension	85mm * 60.5mm * 40.5mm