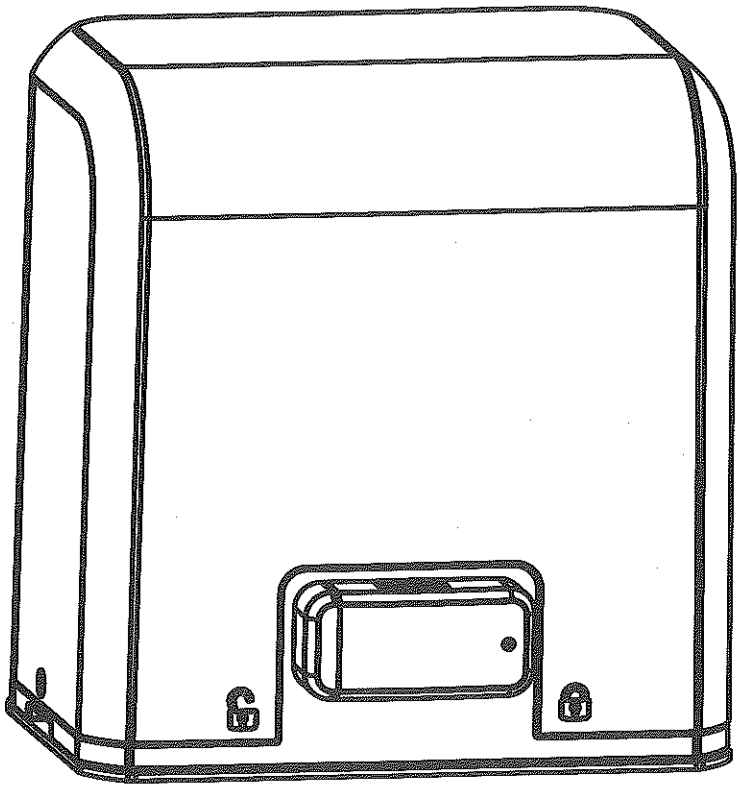
BOXER SERIES
SLIDING GATE OPENER

USER MANUAL



Reuse
Reduce
Recycle

CE

INDEX

1. GENERAL PRECAUTION:

WARNING :

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

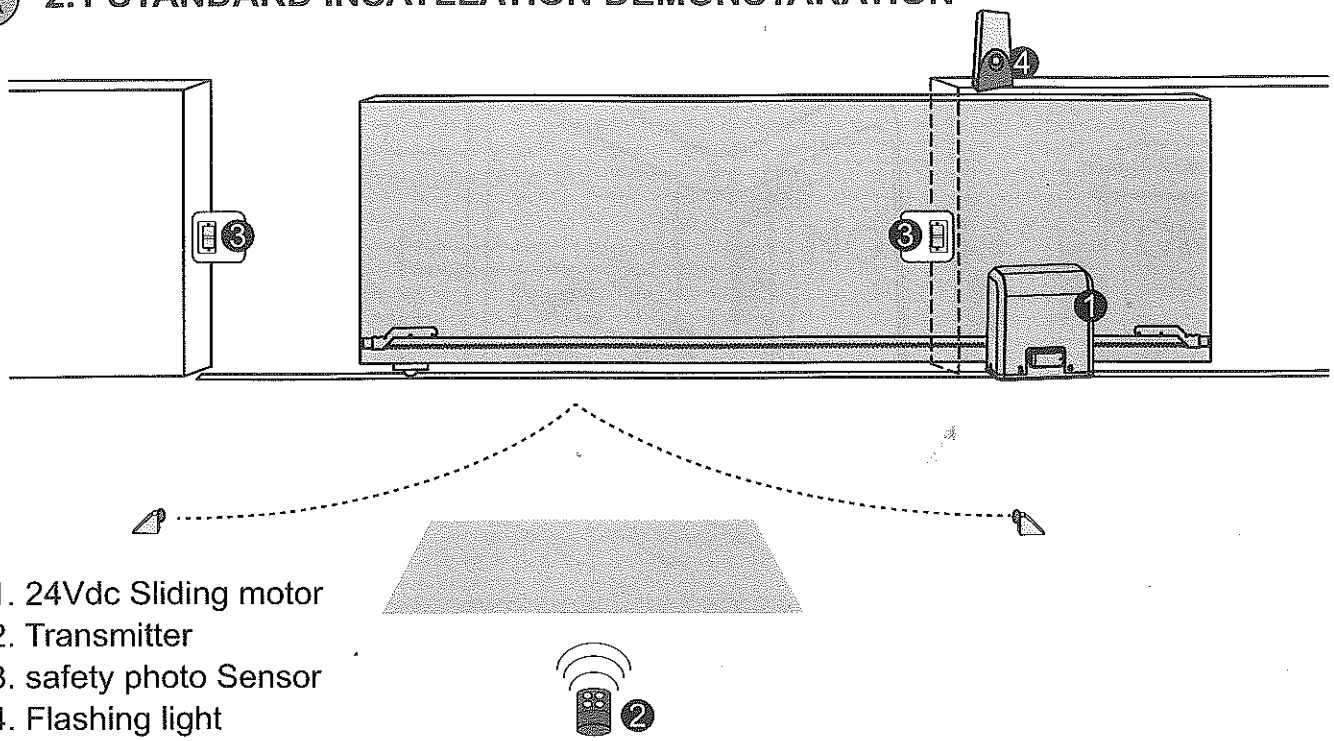
(1) All installations, electrical connections, adjustments and testing must be performed only after reading and understanding of all instructions carefully.
(2) Before carrying out any installation or maintenance operation, disconnect the electrical power supply by turning off the magneto thermic switch 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.

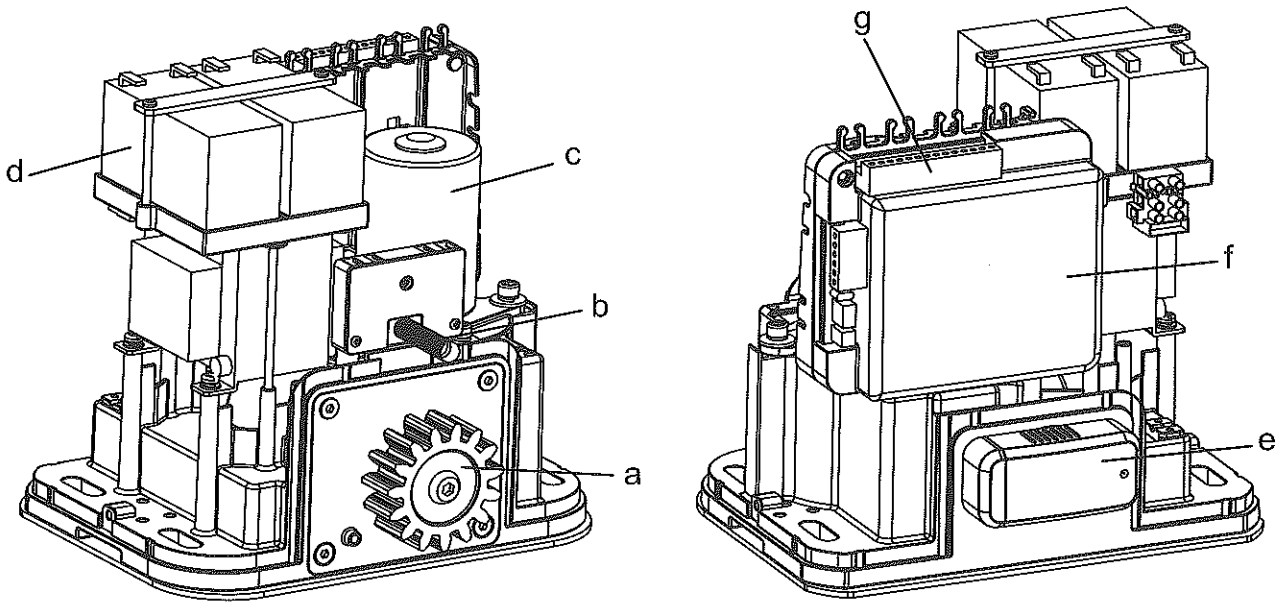
2. INSTALLATION:

A 2.1 STANDARD INSATLLATION DEMONSTARATION



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

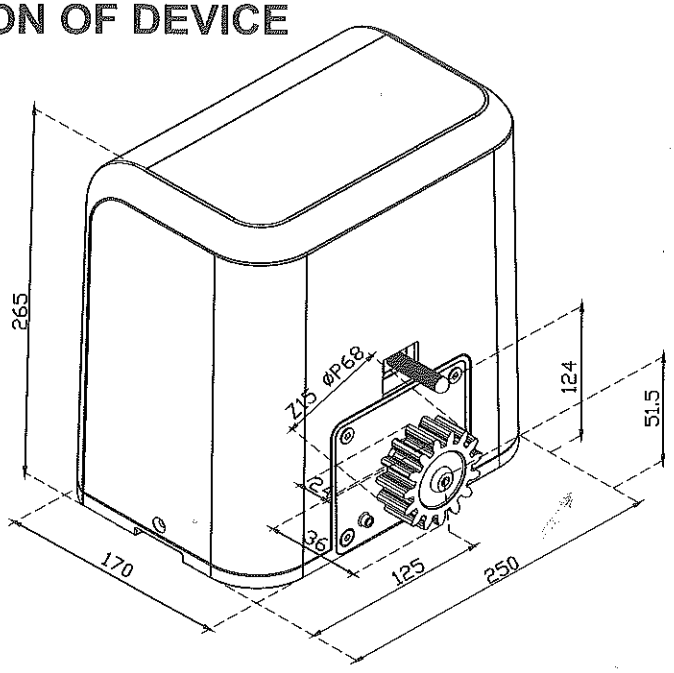
B 2.2 DESCRIPTION OF DEVICE



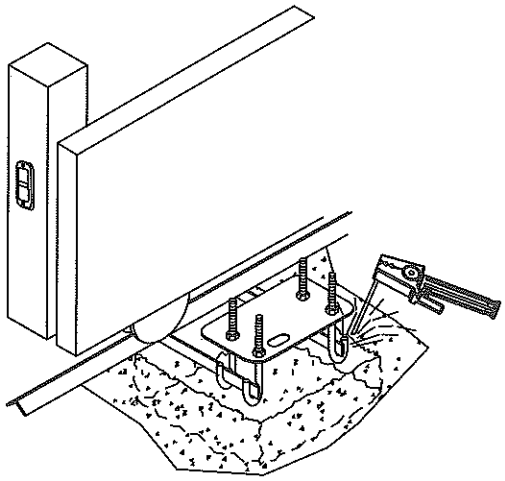
a. Operation gear
b. Limit switch device
c. 24Vdc motor
d. Back-up batteries

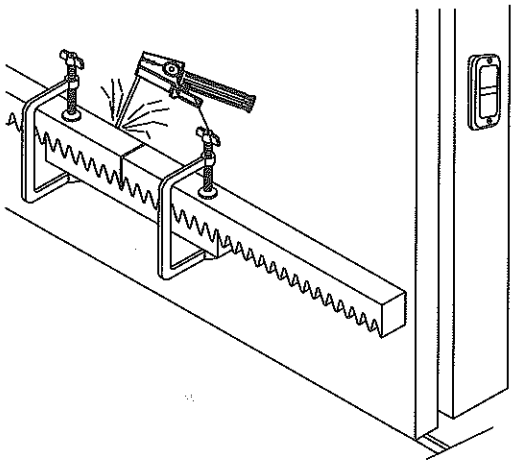
e. Release device
f. Control panel
g. Terminals of devices

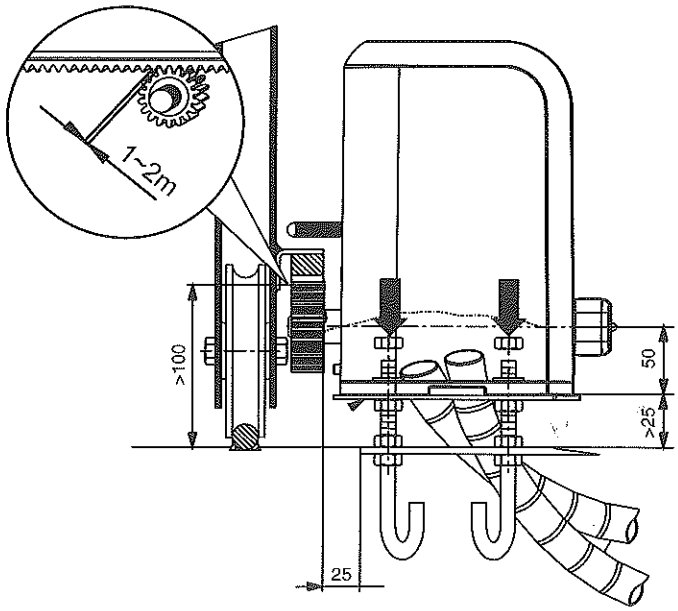
C 2.3 DIMENSTION OF DEVICE

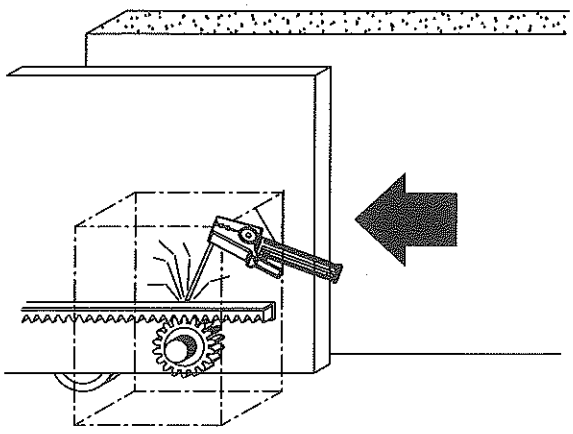


D 2.4 INSTALLATION OF MOTOR GEAR AND GEAR RACK

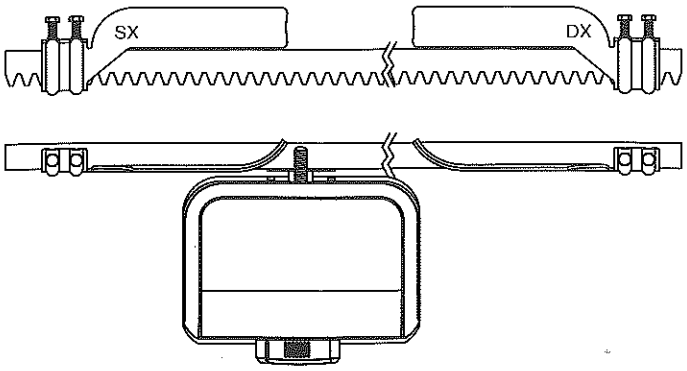


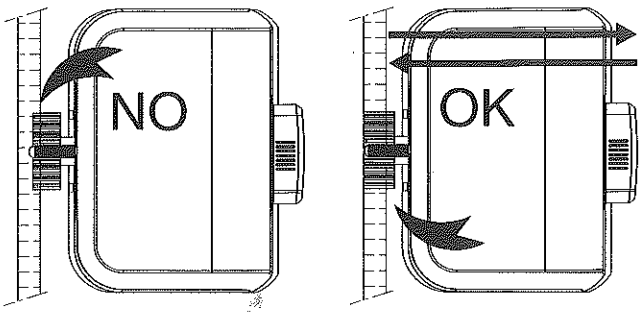






E 2.5 CHECKING FOR INSTALLATION





F 2.6 EMERGENCY RELEASE

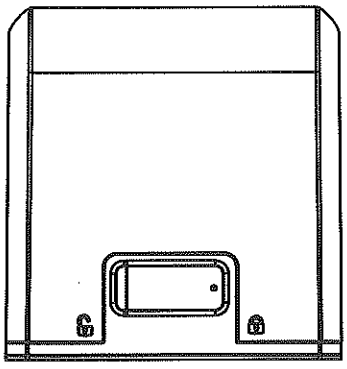
In the case of power failure for emergency release of the motor, please follow the procedure as below:

Step1. Push the lid of release chamber and move rightward

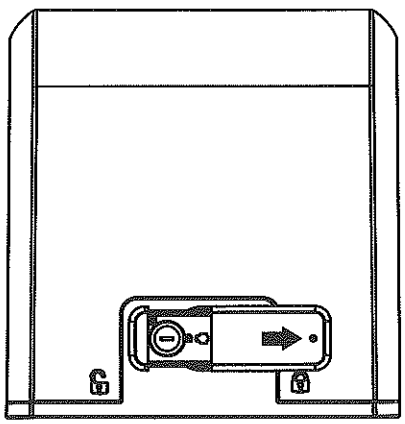
Step2. Insert the key and turn clockwise to unlock the device

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

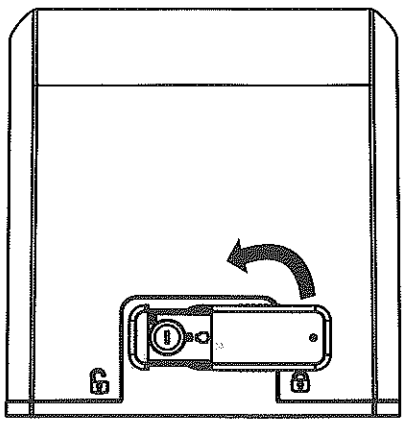
To restore the automation, simply reverse the above procedure.



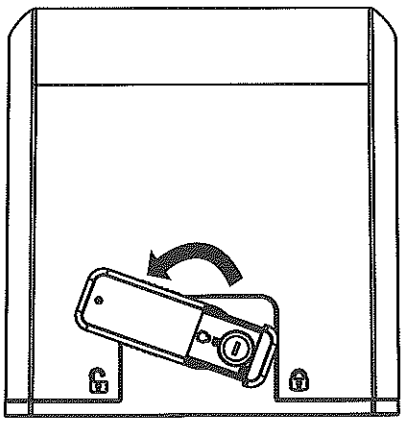
Step1.



Step2.



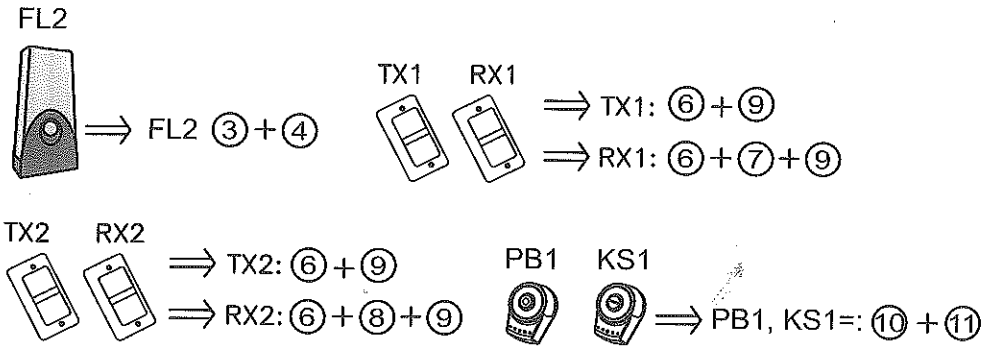
Step3.

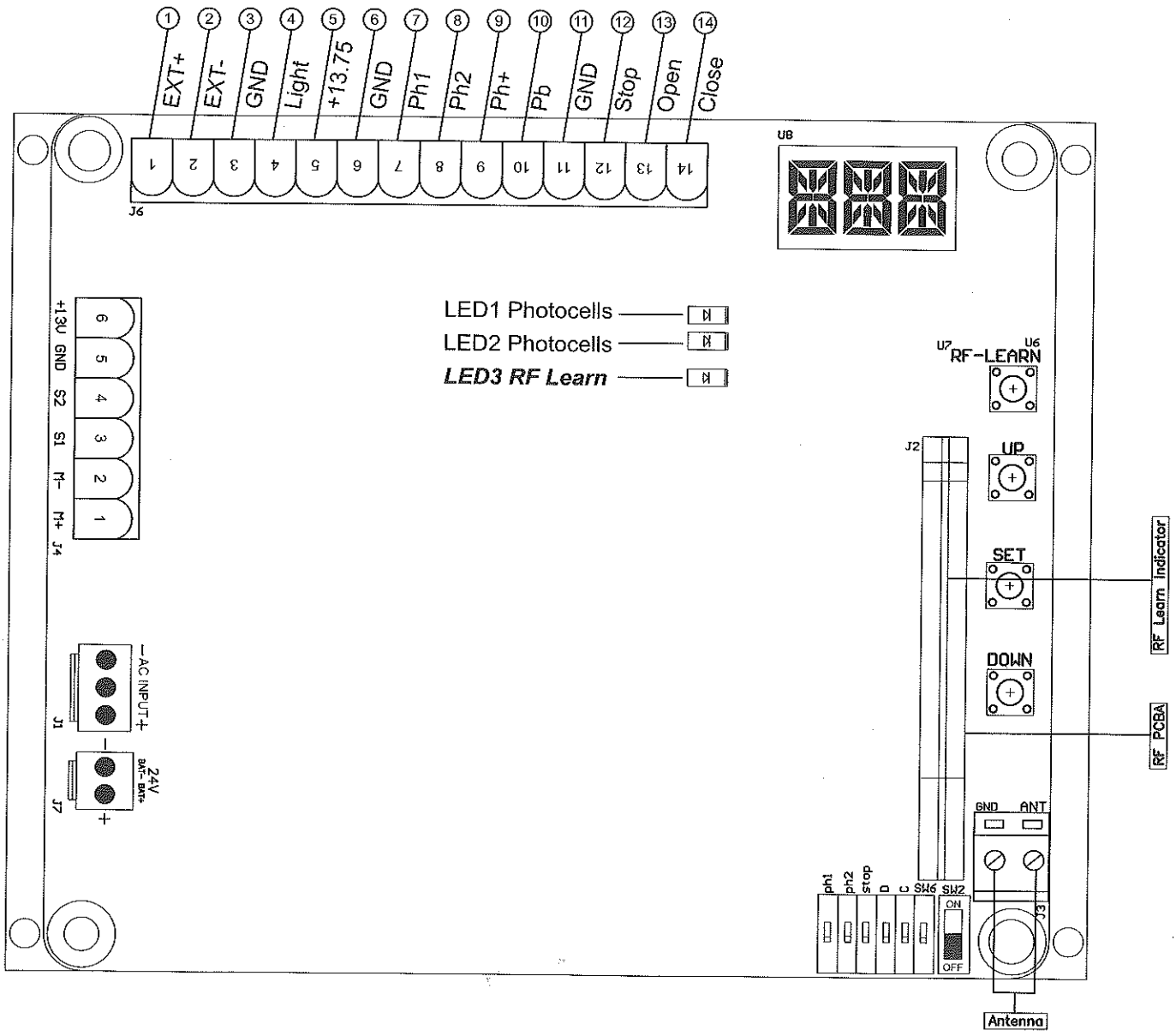


3. SETUP AND FUNCTION SETTING:

A 3.1. WIRE CONNECTION

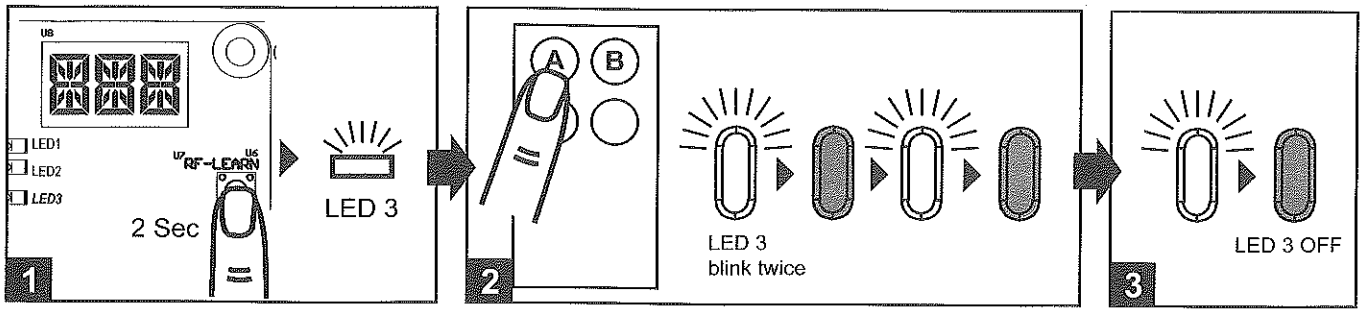
If the Led display is in normal performing refer to "4.2.1", you can control the gate by either transmitters or the button on the board: "UP"-clockwise moving, "SET"- stop and "DOWN"- Counterclockwise moving.





B 3.2 Transmitter memorizing

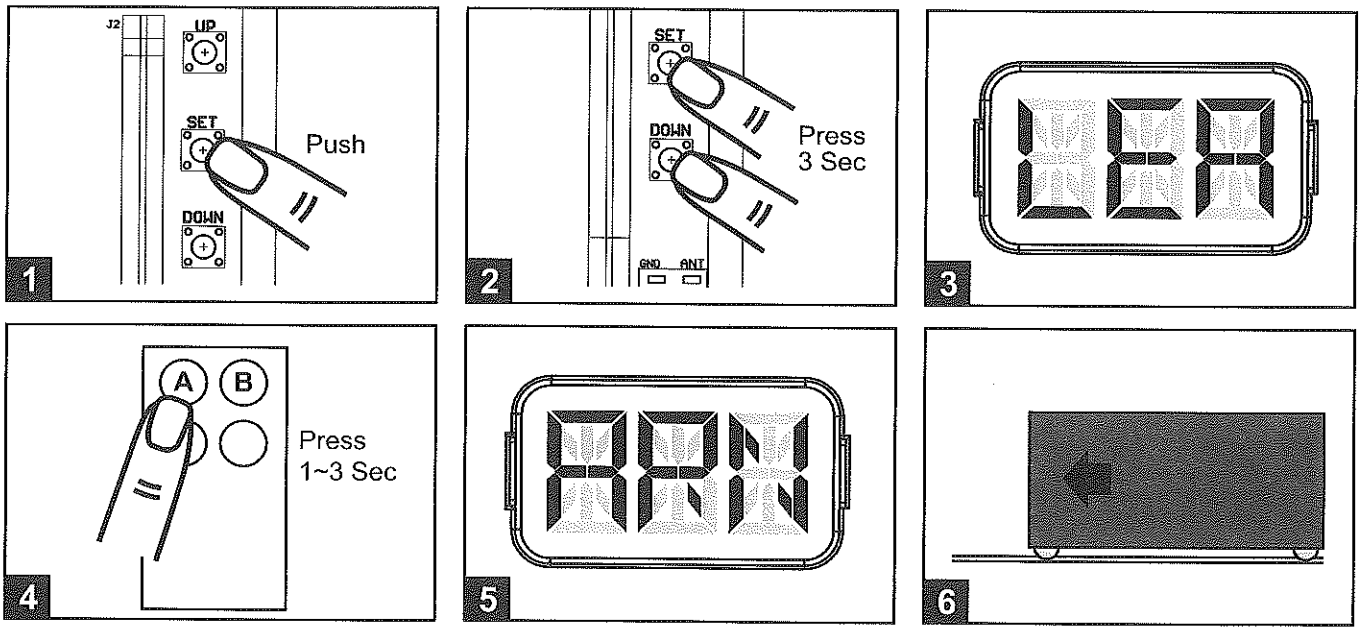
Press "RF Learn" button for 2 seconds, and the LED3 is on; then press the transmitter button (A); the LED3 will blink twice and then be off. The transmitter learning is completed.



C 3.3 SYSTEM LEARNING AND LED DISPLAY

Before goes to system learning, the transmitter memorizing process has to be completed.
To complete the system learning, please following the instruction as below:

Step1: Press "SET"; then press "SET" + "DOWN" for 3 seconds, and the LED display shows "LEA"
Stop2: Press button (A) on time, the LED display should shows "ARN"
Step3: The gate will goes to Auto-learning, please wait for the learning process to be completed



LED Display	Programmable Functions
N-L	"N-L": The Boxer system learning is not done.
RUN	"RUN": The Boxer system is in normal operation To set up the program, press SET button for 3 seconds, when the LED display change to F1-FA press UP and DOWN to adjust the setting and press SET to confirm. When complete the setting, just press button A on the remote or wait for few seconds for LED display change to "RUN" for normal operation.
LEA	"LEA": Enter learning mode and then wait for learning instructions.
ARN	"ARN": The system learning is in progress. The Auto-learning process of gate moving: "Gate open to the end- stop close to the end- stop."

D 3.4 PROGRAMMABLE FUNCTION SETTINGS

LED Display	Definition	Function	Value	Description
F1	Options of Gate Opening direction	F1-0	Clockwise Opening	1. The function can adjust the dir ection of gate opening. 2. The factory setting is "F1-1".
		F1-1	Counterclockwise Opening	
F2	Automatic Closing	F2-0	No automatic closing	1. This function can cause the gate to close automatically after the paused time. 2. The factory setting is "F2-3": 30secs as the pause time.
		F2-1	5 seconds	
		F2-2	15 seconds	
		F2-3	30 seconds	
		F2-4	45 seconds	
		F2-5	60 seconds	
		F2-6	80 seconds	
		F2-7	120 seconds	
		F2-8	180 seconds	
F3	The reactions of the photocells/ safety edge/ loop detector when they detecting obstacles	F3-1	Please refer to page 9, F3 settings	1. The factory setting is "F3-1".
		F3-2		
		F3-3		
F4	Motor Speed	F4-1	Slow	1. The function can adjust the running speed of motor. 2. The factory setting is "F4-4".
		F4-2	Medium	
		F4-3	Fast	
		F4-4	Very Fast	
F5	Motor Force	F5-1	Light ▮▯▯▯▯▯▯▯ Heavy	1. The function can adjust the running force of motor to be compatible with the gate weight. 2. The factory setting is "F5-4". 3. The motor force value: F5-1: 2A F5-6: 7A F5-2: 3A F5-7: 8A F5-3: 4A F5-8: 10A F5-4: 5A F5-9: 13A F5-5: 6A
		F5-2	Light ▮▮▯▯▯▯▯▯ Heavy	
		F5-3	Light ▮▮▮▯▯▯▯▯ Heavy	
		F5-4	Light ▮▮▮▮▯▯▯▯ Heavy	
		F5-5	Light ▮▮▮▮▮▯▯▯ Heavy	
		F5-6	Light ▮▮▮▮▮▮▯▯ Heavy	
		F5-7	Light ▮▮▮▮▮▮▮▯ Heavy	
		F5-8	Light ▮▮▮▮▮▮▮▮ Heavy	
		F5-9	Light ▮▮▮▮▮▮▮▮ Heavy	
F6	Open Partially	F6-0	3 seconds	1. The function can adjust the time of opening partially. 2. The factory setting is "F6-1".
		F6-1	6 seconds	
		F6-2	9 seconds	
		F6-3	12 seconds	
		F6-4	15 seconds	
		F6-5	18 seconds	
F7	Pre-flashing	F7-0	The flashing light blinks when the gate starts to move.	1. The factory setting is "F7-0".
		F7-1	The flashing light blinks 3 seconds before the gate starts to move.	
F8	Deceleration point programming of total travel distance	F8-0	75%	1. The factory setting is "F8-0".
		F8-1	80%	
		F8-2	85%	
		F8-3	90%	
		F8-4	95%	
F9	Deceleration Speed	F9-1	50% full speed	1. The factory setting is "F9-1".
		F9-2	25% full speed	
FA	Auto - Reverse when object impacted	FA-0	No Auto - reverse	1. The factory setting is "FA-3".
		FA-1	1 second	
		FA-2	3 seconds	
		FA-3	Reverse to the end	

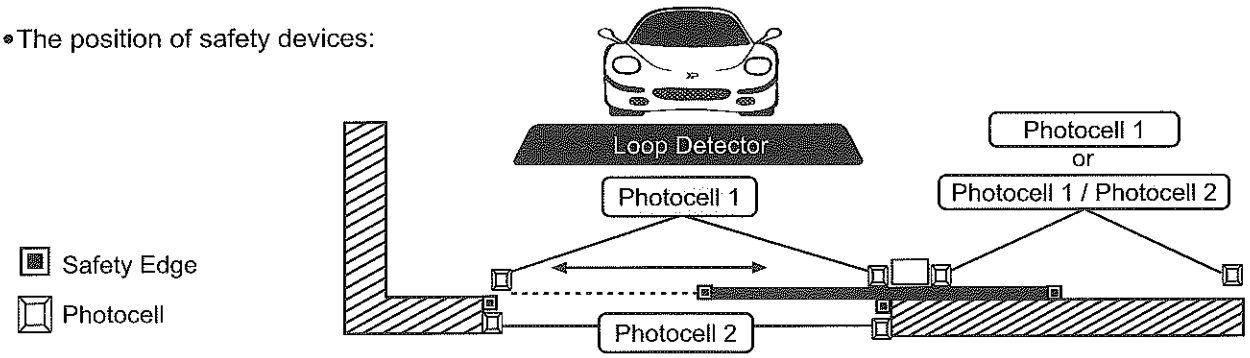
• F3 function settings:

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:



E 3.5 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.

4. TECHNICAL CHARACTERISTICS:

A 4.1 TECHANICAL DATA SHEET OF BOXER SERIES

Motor	BX300	BX500
Gear type	Worm Gear	Worm Gear
Peak thrust	3300N	5500N
Nominal thrust	3000N	5000N
Engine RPM	3800 RPM	3800 RPM
Absorbed Power	60W	60W
Power supply	24 Vdc	24 Vdc
Nominal input power	3A	3A
Maximum gate weight	300kg	500kg
Maximum gate length	5 Meters	6 Meters
Maximum operating current	5.5A for Maximum 10 secs	5.5A for Maximum 10 secs
Operating Temperature	-20oC~+50oC	-20oC~+50oC
Dimension LxWxH mm.	250 X 170 X 265	250 X 170 X 265
Weight	7.5 kg	8 kg
Speed	21.9 cm / sec	21.9 cm / sec

B 4.2 H2 PHOTOCELL DATA SHEET

Detection type	Through beam
Operating distance	30 meters
Response time	100ms
Input voltage	AC/DC 12~24V
Operating Temperature	-20℃~+60℃
Protection class	IP66
Dimension	59mm * 87mm * 38mm

C 4.3 TM3 TRANSMITTER DATA SHEET

Application	Radio transmitter
Frequency	433.92Mhz
Coding	Rolling code
Buttons	2, for single-gate or dual-gate operation
Power Supply	3V with one CR2032 button type lithium battery
Operating Temperature	-20℃~+50℃
Dimension	71.5mm * 33mm * 14mm

D 4.4 FL2 FLASHING LIGHT DATA SHEET

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

5. ADDITIONAL INFORMATINO:

A 5.1 ADDING OR REMOVING DEVICES:

After you have added or removed any devices, the automation system must be tested again according to the operation mentioned in paragraph 5 "Testing".

B 5.2 TROUBLE SHOOTING:

Symptoms	Recommended checks and possible solution
Overheated Back-up Batteries	• Check the wiring connection of the batteries.
The radio transmitter does not control the gate, and the LED on the transmitter does not light up.	• Check to see if the batteries are run out, if necessary replace them.
The radio transmitter does not control the gate but the LED on the transmitter lights up.	• Check to see if the transmitter has been memorized correctly with the radio receiver.
The maneuver doesn't start and the LED 1~3 on the control unit doesn't flash.	• Check the power cord is plugged into the electricity socket. • Check to see if the fuses are blown; if necessary, identify the reason for the failure and then replace the fuses with others having the same current rating and characteristics.
The maneuver doesn't start and the flashing light is off.	• Check the order is actually received. If the order reaches the OPEN input, the corresponding "OPEN" LED must light up; if you are using the radio transmitter, the LED on control unit must make two long flashes.
The maneuver doesn't start and the flashing light flashes a few times.	• Count the flashes and check the equivalent value in table.
The gate starts but it is immediately followed by a reverse run.	• The selected force could be too low to move the gate. Check if there are obstacles; if necessary increase the force. • Check the hall sensor wiring connection is firm. • Activate the "RESET" socket or cut off the AC input power, and cut off the batteries output for five seconds, then power the whole unit by connecting the AC and battery terminals
The maneuver is done but the flashing light does not work.	• Check that there is voltage on the flash light's terminal during maneuver; if there is voltage, the problem could be the lamp, so try to replace the lamp with a new one.
The gate only moves a little distance when pressing the button of the transmitter.	• Check the wiring connection of the hall sensor is firm.
The gate shall be closed instead of opening.	• Adjust the direction of gate opening by Programmable Functions; please refer to "4.2 Programmable Functions Lists".
The leaves suddenly stop during moving.	• Check if the "RESET" socket is activated • Make sure the wiring connection of the gearmotor is firm. • Make sure the hall sensor wiring connection is firm. • The GND terminal of the photocells on the PCB must be short-circuited if no photocells installed. • Make sure the fuse is workable.
The gearmotor does not run and the relay is noisy when operating the gate opening and closing.	• Check if the fuse is burned.