

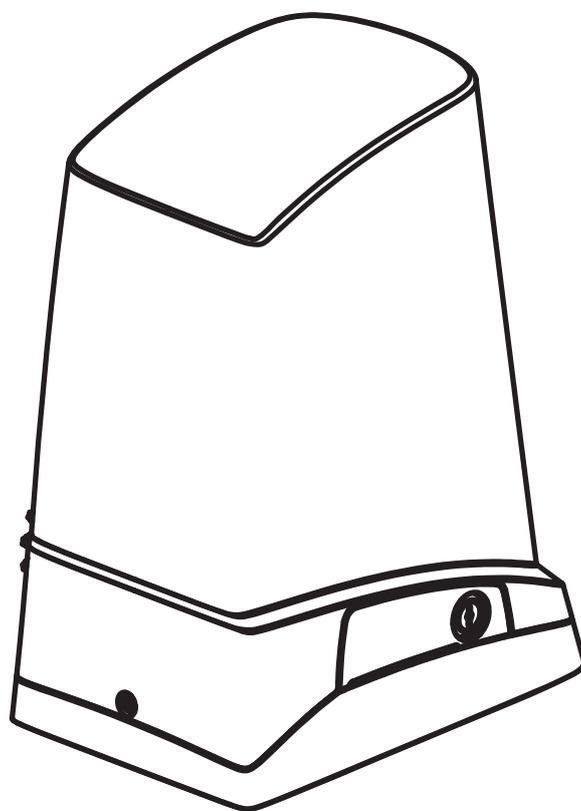
**PSA500 / PSA700 / PSA1000**

**SLIDING GATE OPENERS**

**230V AC MOTOR**

FOR RESIDENTIAL

**USER MANUAL**





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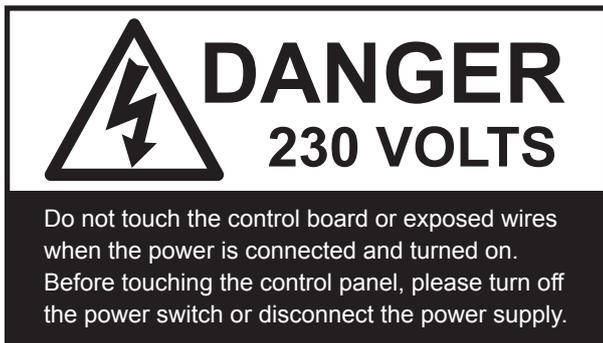
## 1). WARNINGS

Please read this instruction manual carefully before the installation of gate-automated system.

This manual is exclusively for qualified installation personnel. Powertech Automation Inc. is not responsible for improper installation and failure to comply with local electrical and building regulations.

Keep all the components of PSA500/PSA700/PSA1000 system and this manual for further consultation.

- In this manual, please pay extra attention to the contents marked by the symbol:

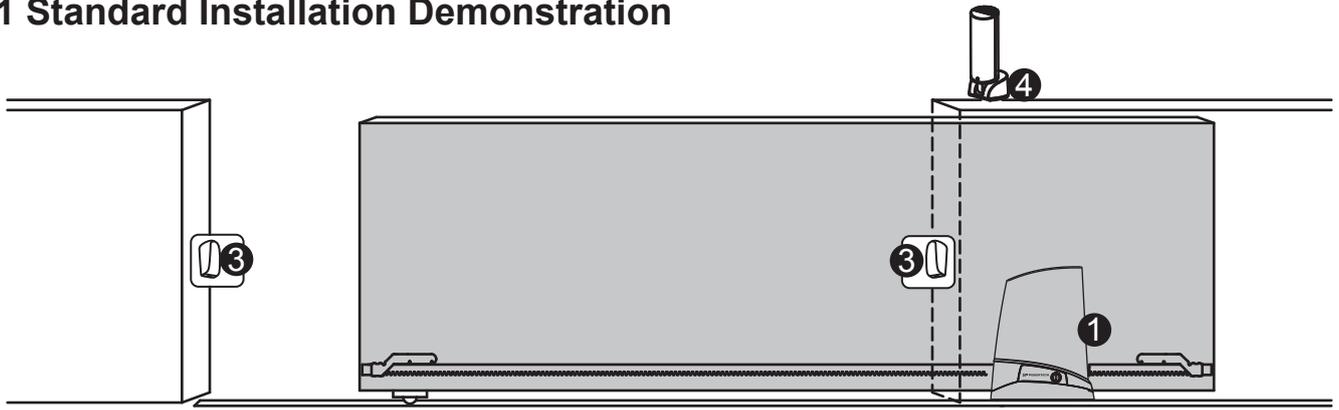


- Be aware of the hazards that may exist in the procedures of installation and operation of the gate-automated system. Besides, the installation must be carried out in conformity with local standards and regulations.
- If the system is correctly installed and used following all the standards and regulations, it will ensure a high degree of safety.
- Make sure that the gates work properly before installing the gate-automated system and confirm the gates are appropriate for the application.
- Do not let children operate or play with the gate-automated system.
- Do not cross the path of the gate-automated system when operating.
- Please keep all the control devices and any other pulse generator away from children to avoid the gate-automated system being activated accidentally.

- Do not make any modifications to any components except that it is mentioned in this manual.
- Do not try to manually open or close the gates before you release the gear motor.
- If there is a failure that cannot be solved and is not mentioned in this manual, please contact qualified installation personnel.
- Do not use the gate-automated system before all the procedures and instructions have been carried out and thoroughly read.
- Test the gate-automated system weekly and have qualified installation personnel to check and maintain the system at least every 6-month.
- Install warning signs (if necessary) on both sides of the gate to warn the people in the area of potential hazards.

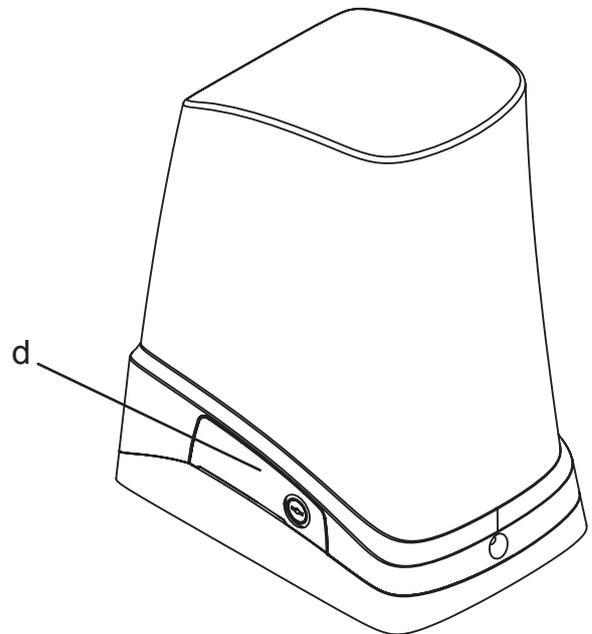
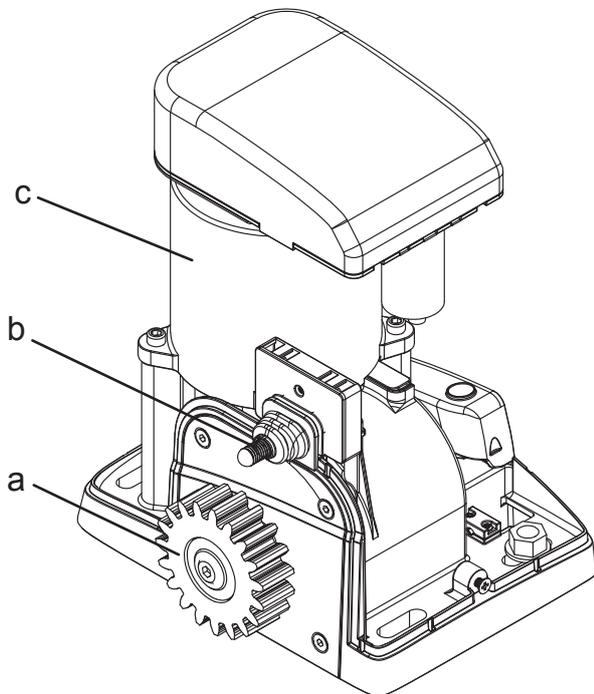
## 2). INSTALLATION:

### 2.1 Standard Installation Demonstration



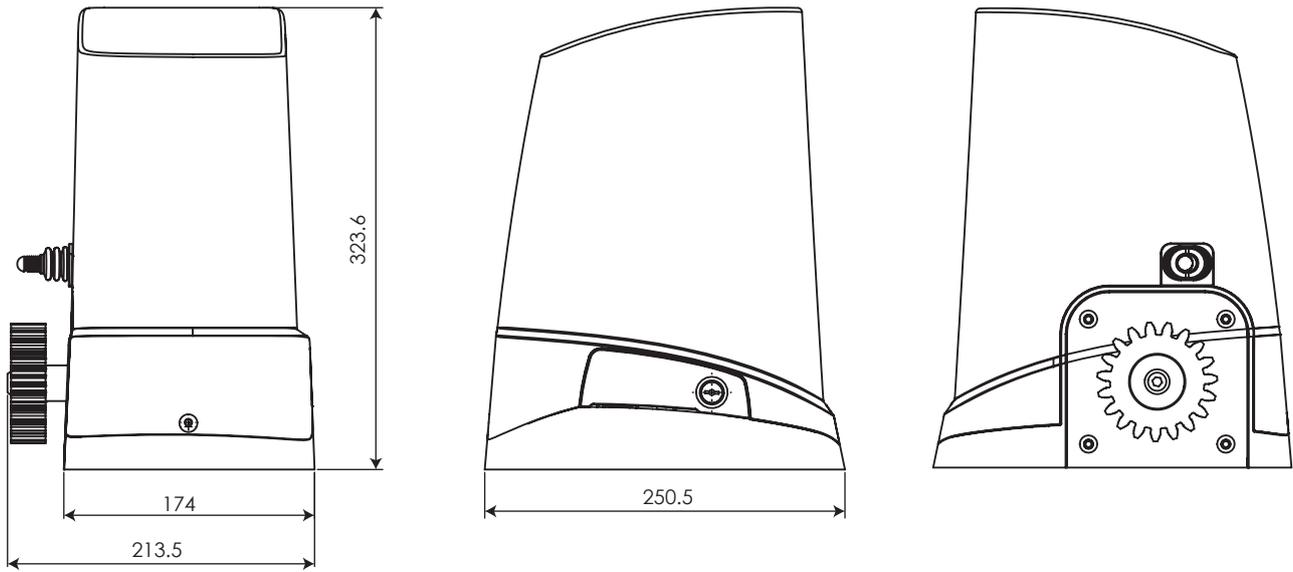
1. Sliding motor
2. Transmitter
3. Safety photo sensor
4. Flashing light

### 2.2 Description of Device

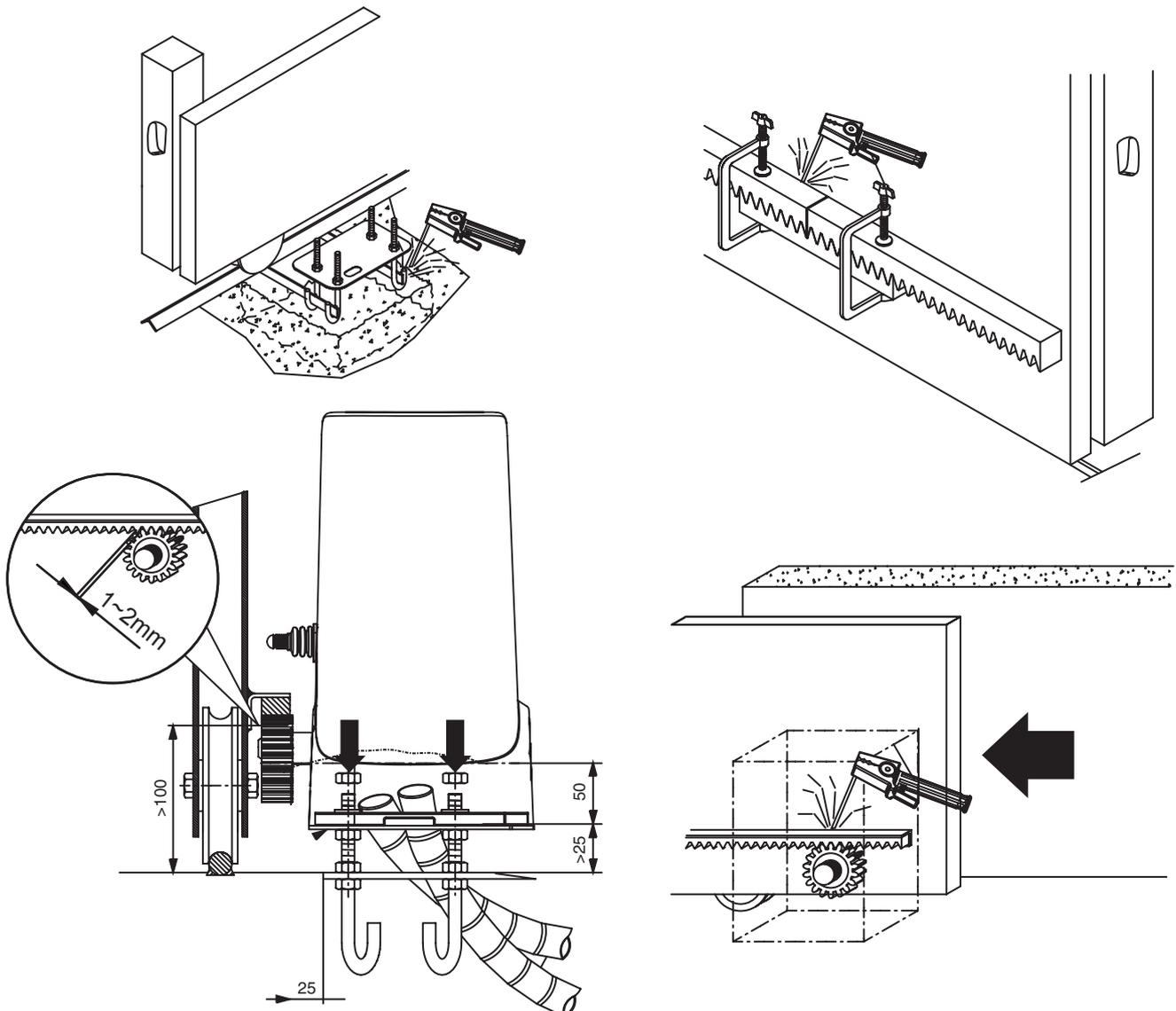


- a. Operation gear
- b. Limit switch device
- c. 230V AC Motor
- d. Release device

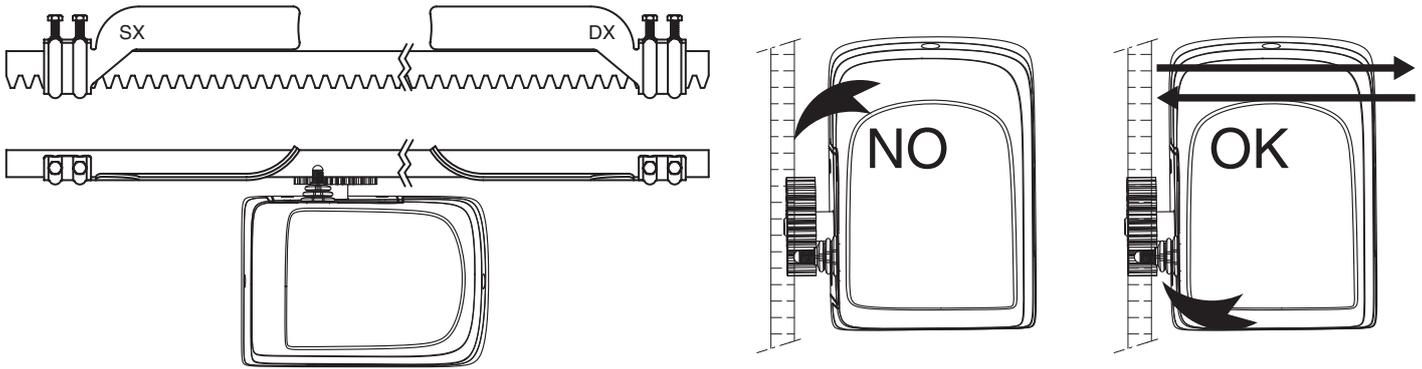
## 2.3 Dimension of Device



## 2.4 Installation of Motor Gear and Gear Rack



## 2.5 Checking for Installation



## 2.6 Emergency Release

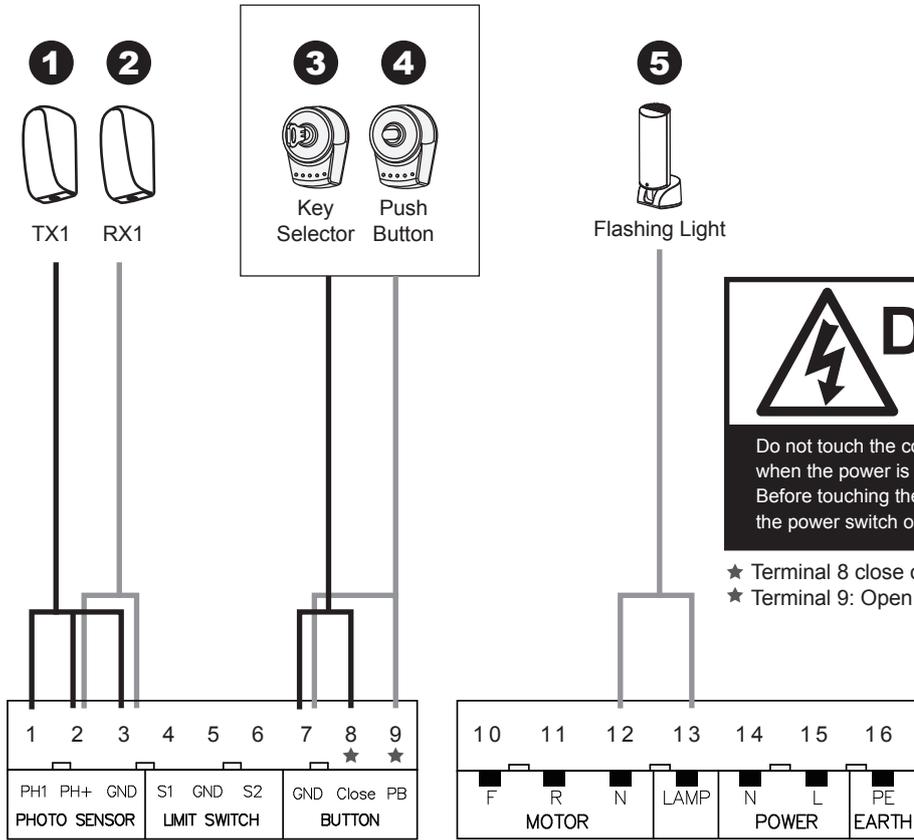
In the case of power failure for emergency release of the motor, please follow the procedure as below:

**Step1. Insert the key into the release slot and turn the release key counter-clockwisely.**

**Step2. Pull the release bar.**

To restore the automation, simply reverse the above procedure.

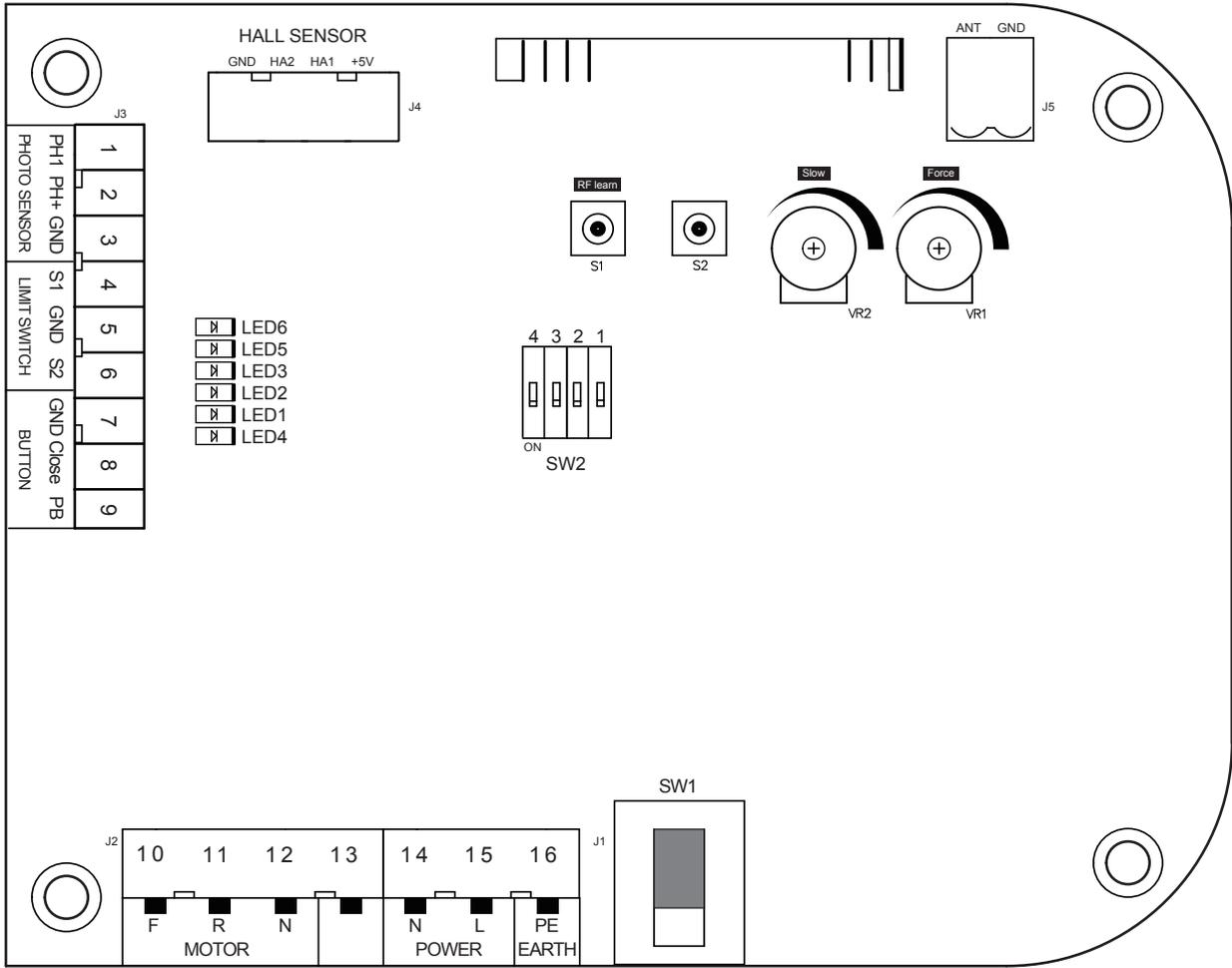




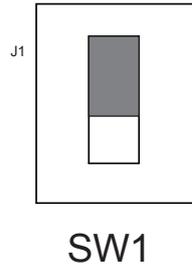
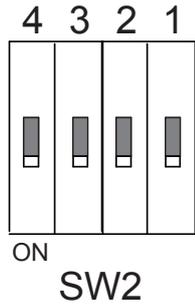
**DANGER**  
230 VOLTS

Do not touch the control board or exposed wires when the power is connected and turned on. Before touching the control panel, please turn off the power switch or disconnect the power supply.

- ★ Terminal 8 close only
- ★ Terminal 9: Open / Stop / Close / Stop



### 3). SETTING OF A CONTROL BOARD



SW1	Power Supply
SW2-1	Photocells Setting
SW2-2	Flashing Light Adjustment
SW2-3	Gate Auto-Closing Adjustment
SW2-4	Direction of closing

#### 3.1 SW1 Dip Switch Setting – Power Supply

ON: Power Supply ON, the control board can be operated.  
OFF: Power Supply OFF.

#### 3.2 SW2-1 Photocells Setting

ON: Photocells function ON, and photocells can be triggered.  
OFF: Photocells function OFF.

#### 3.3 SW2-2 Flashing Light Adjustment

ON: The flashing light blinks for 3 seconds before the gate moves, and blinks simultaneously during the movement.  
OFF: The flashing light blinks and the gate moves simultaneously.

#### 3.4 SW2-3 Gate Auto-Closing Adjustment

ON: When gate opened, gate closes after 20 seconds.  
OFF: When gate opened, gate will not close automatically.

#### 3.5 SW2-4 Direction of closing

ON: Outer metal gear goes clockwise as closing.  
OFF: Outer metal gear goes counter-clockwisely as closing.

#### 3.6 VR Adjustable VR Knobs

VR1: Over-current adjustment. Turn clockwise to increase the limit of over-current.

VR2: Torque adjustment. Turn clockwise to increase the torque.

Step1. Turn VR1, VR2 clockwise to maximum. The torque is at maximum at this step.

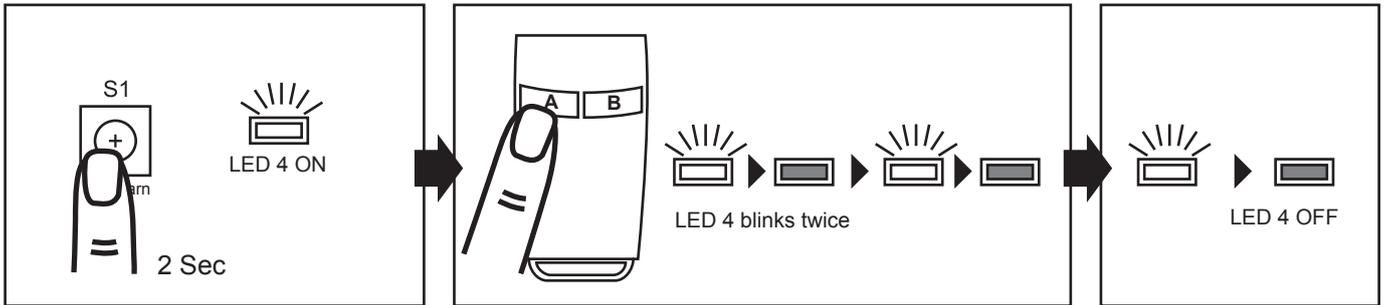
Step2. Torque adjustment: During gate running, turn VR2 counter-clockwisely till the gate can be stopped easily by force but the motor is still running.

Step3. Over-current adjustment: During running, turn VR1 counter-clockwisely till a proper point when the gate is stopped and the motor stops as well.

## 4). REMOTE SETTING AND SYSTEM LEARNING

### 4.1 Remote setting

- Remote learning: Press S1 3 seconds to enter remote learning mode and LED4 is on. Press A button on the remote in 10 seconds and LED4 blinks twice. After LED4 goes off, remote learning completed.
- Clean the remote memories: Press S1 for 10 seconds. After 10 seconds, LED4 will blink 4 times and the remote memories are removed.



### 4.2 System learning

After remote learning, press A button to start system learning. The gate closes 10 seconds with full speed and move with decelerated speed till limit-switch triggered.

## 5). FUNCTIONS

### 5.1 LED Indications

- LED1: Power indicator. LED is blinking indicates there is power supply.
- LED2: LED2 is ON indicates the sliding motor meets the OPEN LIMIT.
- LED3: LED3 is ON indicates the sliding motor meets the CLOSE LIMIT.
- LED4: Remote and System learning indicators
- LED5: Blinking while opening
- LED6: Blinking while closing

### 5.2 Photocell logic

Position of Gate	Photocell activated
Gate closed	No action
Gate Opened	Stop moving, waiting for further indications. If auto-closing function is ON, start auto-closing after 20 seconds
Stop in the middle	Stop moving, waiting for further indications. If auto-closing function is ON, start auto-closing after 20 seconds
Gate closing	Gate stops and reverses to opened
Gate Opening	Door stops. If auto-closing function is ON, start auto-closing after 20 seconds

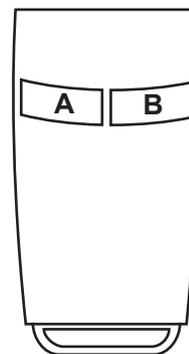
### 5.3 Deceleration function

The 5% of the final stroke is the deceleration zone. The gate moves with 20% full speed till closed or limit switch is triggered.

## 5.4 Gate Operation

Press the button “A” on the transmitter for dual-gate operation.

Press the button “B” on the transmitter for single-gate operation in either single-gate or dual-gate installation.



## 5.5 Gate-moving Logic

- (A) In gate-opening phase: The gates stop if the transmitter/push button/key selector is activated, and close when the transmitter/push button/key selector is reactivated.
- (B) In gate-closing phase: The gates stop if the transmitter/push button/key selector is activated, and open when the transmitter/push button/key selector is reactivated.
- (C) In gate-opening or gate-closing phase: For safety purpose, the gates stop if encountering obstacles.

## 6). TECHNICAL CHARACTERISTICS:

### 6.1 Technical Data Sheet of Series

	PSA500	PSA700	PSA1000
Specifications	500kg level	700kg level	1000kg level
Power supply	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Gate Weight	500kg	700kg	1000kg
Gate speed	17.4cm/sec	17.4cm/sec	17.4cm/sec
Limit switch	Spring/Magnetic	Spring/Magnetic	Spring/Magnetic
Temperature	-20°C to +65°C	-20°C to +65°C	-20°C to +65°C
Protection class	IP 54	IP 54	IP 54

### 6.2 PR-1 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°C~+50°C
Dimension	71.5mm * 33mm * 14mm

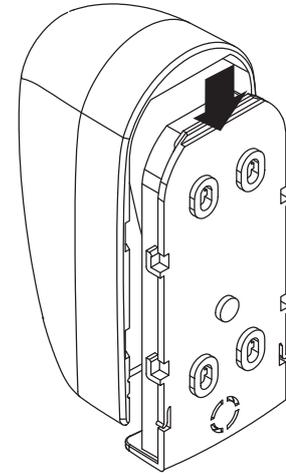
## 7). PHOTOCELL INSTALLATION GUIDE

The safety photocells are security devices for control automatic gates. Consist of one transmitter and one receiver based in waterproof covers; it is triggered while breaking the path of the beams.

### SPECIFICATION:

Detection Method	Through Beam
Sensing Range	25M
Input Voltage	AC/DC 12~24V
Response Time	100MS
Emitting Element	IR LED
Operation Indicator	Red LED(RX): ON(When Beam is Broken), Green(TX):ON
Dimensions	96*45*43mm
Output Method	Relay Output
Current Consumption Max	TX: 35MA/Rx: 38MA (When beam aligned properly); TX: 35MA/ Rx: 20MA (When beam is broken)
Water Proof	IP54

Figure 4(1)



### INSTALLATION:

Wire Connection of PH-2 Photocells

TX: Connect terminals 1 and 2 on the transmitter with the terminals PH+ and GND on the control panel.

RX: Connect terminals 1, 2 and 5 on the receiver with the terminals PH+, GND and PH1 on the control panel.

Use an extra wire to connect terminals 2 and 4 on the receiver as a bridge.

Figure 4(2)

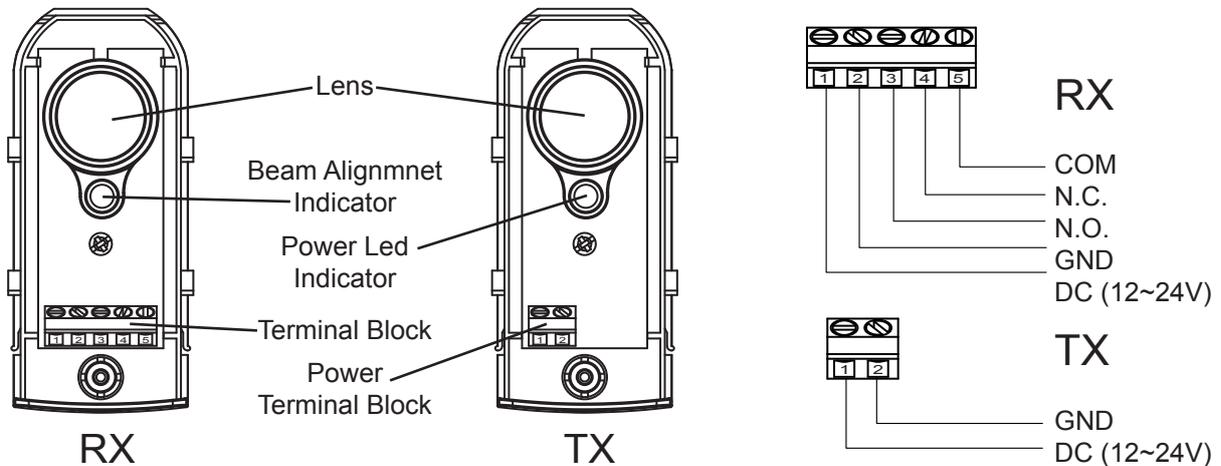


Figure 4(3)

