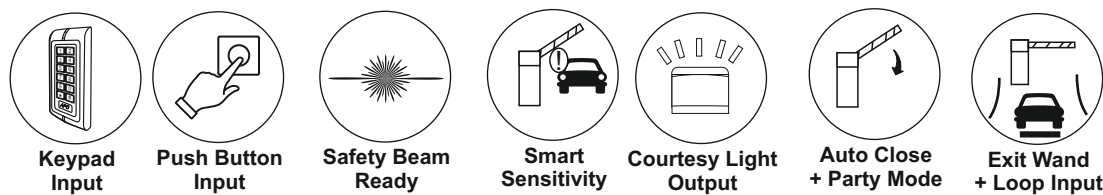


(((APC))) Automation Systems

APC-AC BOOM GATE 240 Volts System Installation Guide



When running any wiring you MUST always switch off the system power.

Before beginning your installation please read this manual thoroughly and observe the wiring for the connection of any and all accessories related to your installation

1. Warning to Installers and Users
2. Installation Layout
3. Footing Size, Installing and Adjusting
4. Adjusting the Vertical and Horizontal Line of the Boom
5. Front Panel Description
6. Electrical Connections
7. Main Features and Remote Control Operations
8. Limit Settings
9. Limit Fine Tune Settings
10. Delay Automatic Close Settings
11. Counter Mode Setting
12. DIP Switch Setting
13. APC Loop Detector for Auto-gate Opening
14. APC Loop Detector as a Safety Device
15. Connecting an APC Keypad
16. Connecting a Single PE Sensor (APC Pe2000)
17. Connecting a Single Retro Reflective Sensor (RR-11)
18. Error Code Tables



Automatic Boom Gates are not for Pedestrians!

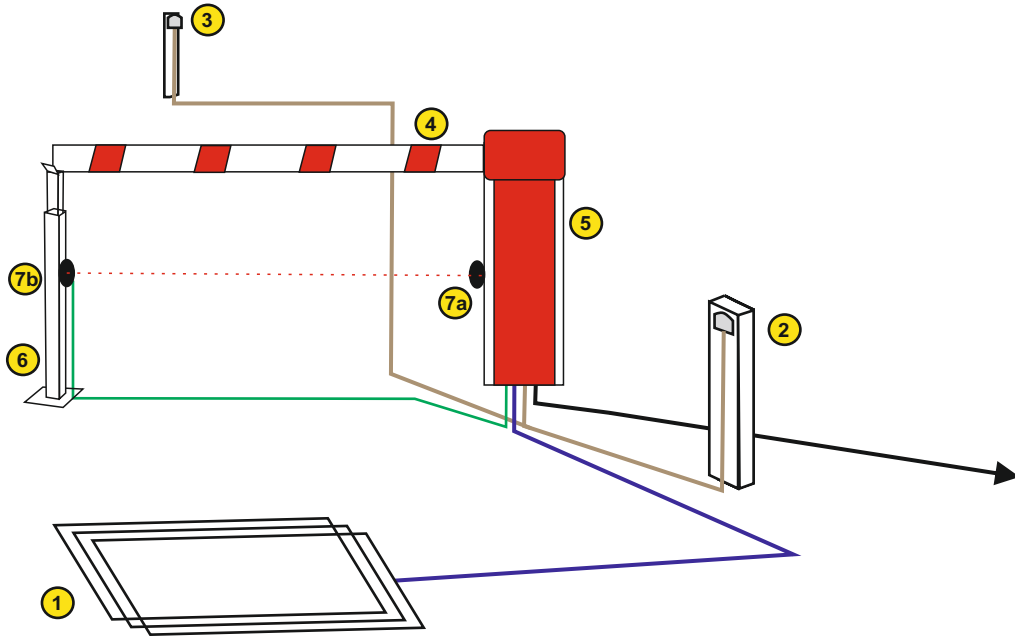
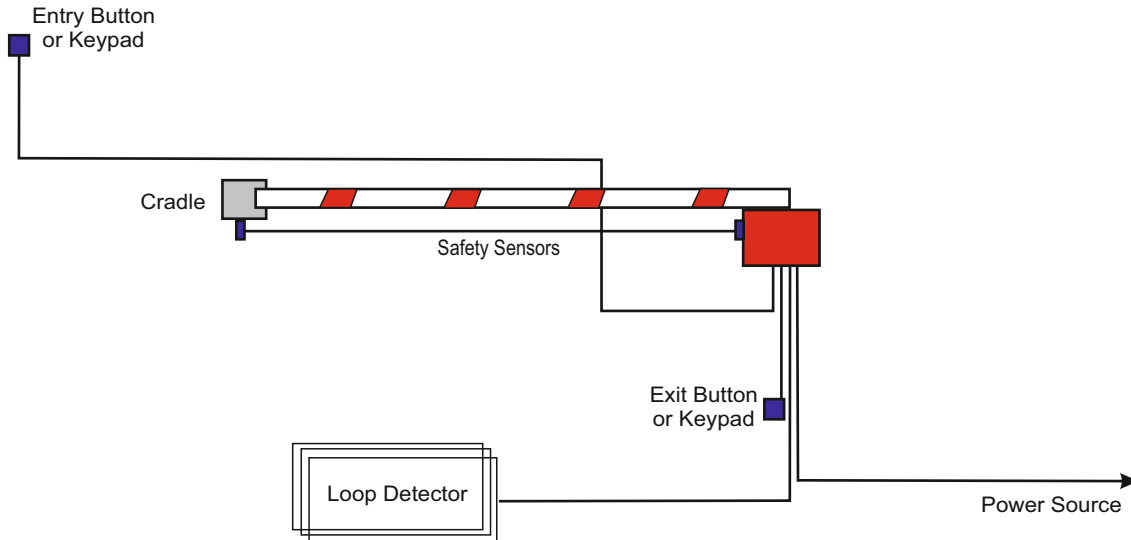
Automatic gate openers are designed for vehicular traffic. They are powerful and can cause serious bodily injury or death. Accordingly, direct all pedestrian traffic to separate walk through gate.

1. Before starting installation and maintenance, please read this manual carefully.
2. Before installation and maintenance cut off the power.
3. The product must be earthed, and an earth leakage breaker is necessary on the power supply.
4. As for electric cable type and section, we suggest to use the cable type with minimum section of 2.0mm².
5. Do not change the original inside wiring.
6. For loss and damage due to unauthorised changes to the original design of the product, the original manufacturer will assume no liability or responsibility.
7. If power failure, please switch off the power supply first, then open the door and rotate the handle on the motor manually to open the boom completely.
8. Keep the automatic control (Push button, remote control, etc.) out of the reach of children.
9. Use transmitters or button only where you can see the gate clearly.
10. Never open the door or the cover of the cabinet when the machine is working.
11. Do not permit children to play on or around the gate.
12. Make sure that the path is not obstructed when the barrier is running.
13. Safety devices like photocells are highly recommended. Check and test them periodically to ensure that they are effective.
14. Please store this manual properly for reference.

AC series

Power supply	220VAC 50Hz / 110VAC 60Hz
Motor's power:	120WAC
Max length of Boom:	6M
	1.6S(for 1-2M)
	4S(for 3-4M)
Time of Up/Down:	6S(for 5M)
Working environment:	-20°C--50°C
Protection class:	IP55
Noise:	<65db

Installation Layout

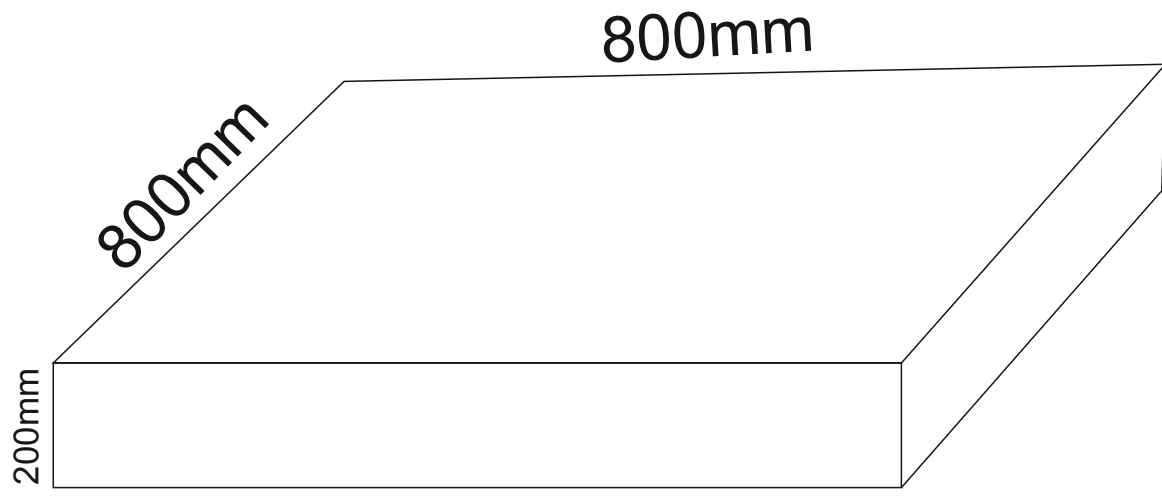


①	Loop Detector
②	Exit Button/Keypad
③	Entry Button/Keypad
④	Boom Arm
⑤	Boom Operator
⑥	Cradle
⑦a	PE Sensor Transmitter
⑦b	PE Sensor Receiver (Not required for Retro Reflective Sensor)

Accessories Requiring Wiring:

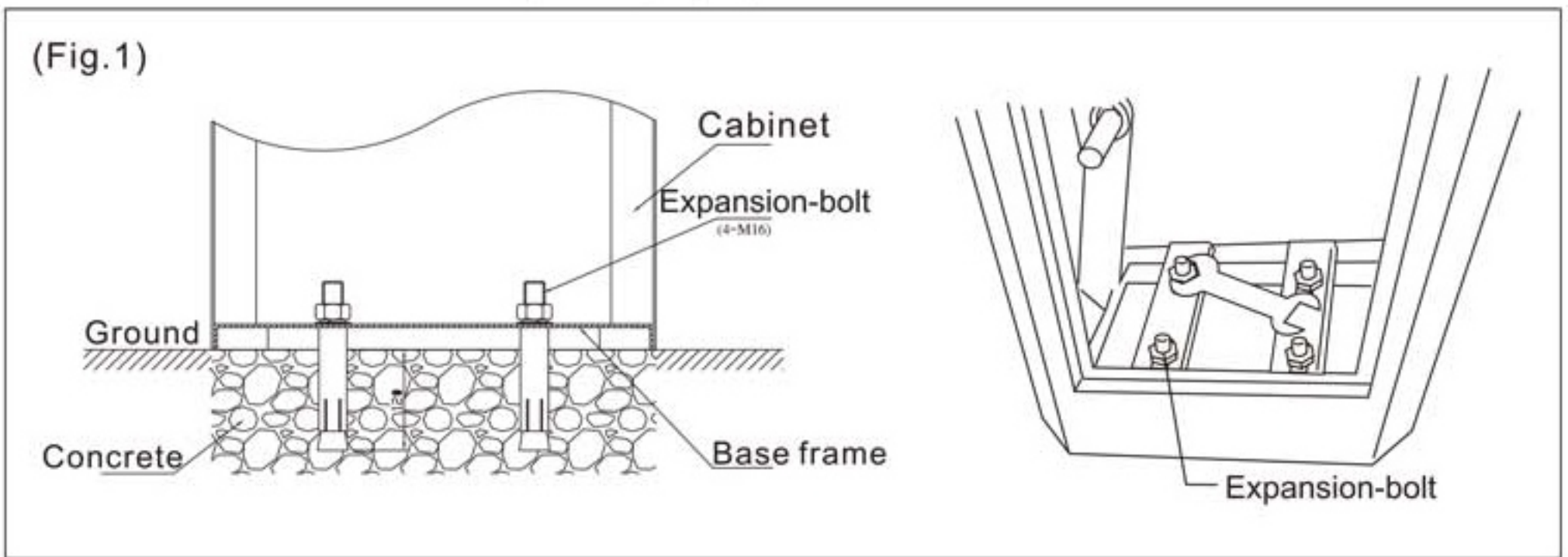
- Keypad - 4 Core
- PBS-K - 2 Core
- PE Sensor
 - Receiver - 4 Core
 - Transmitter - 2 Core
- Loop Detector - 1 Core Teflon insulated Cable

Footing Size

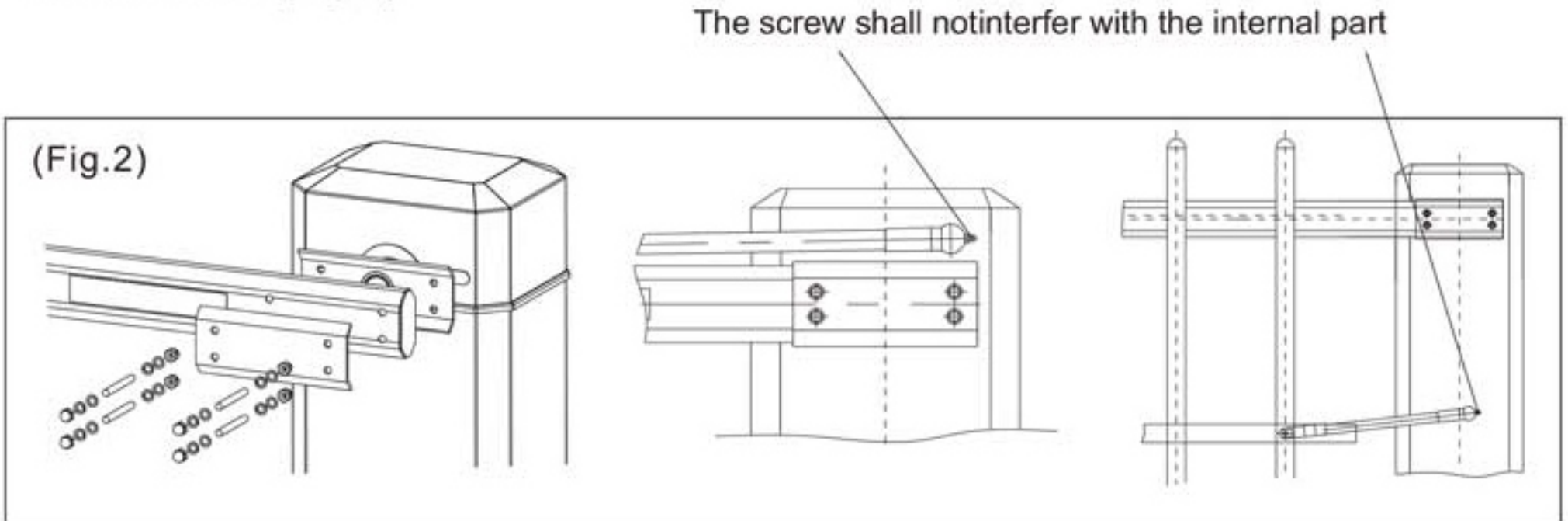


Installing and Adjusting

1. Install the machine on the ground (Fig.1)

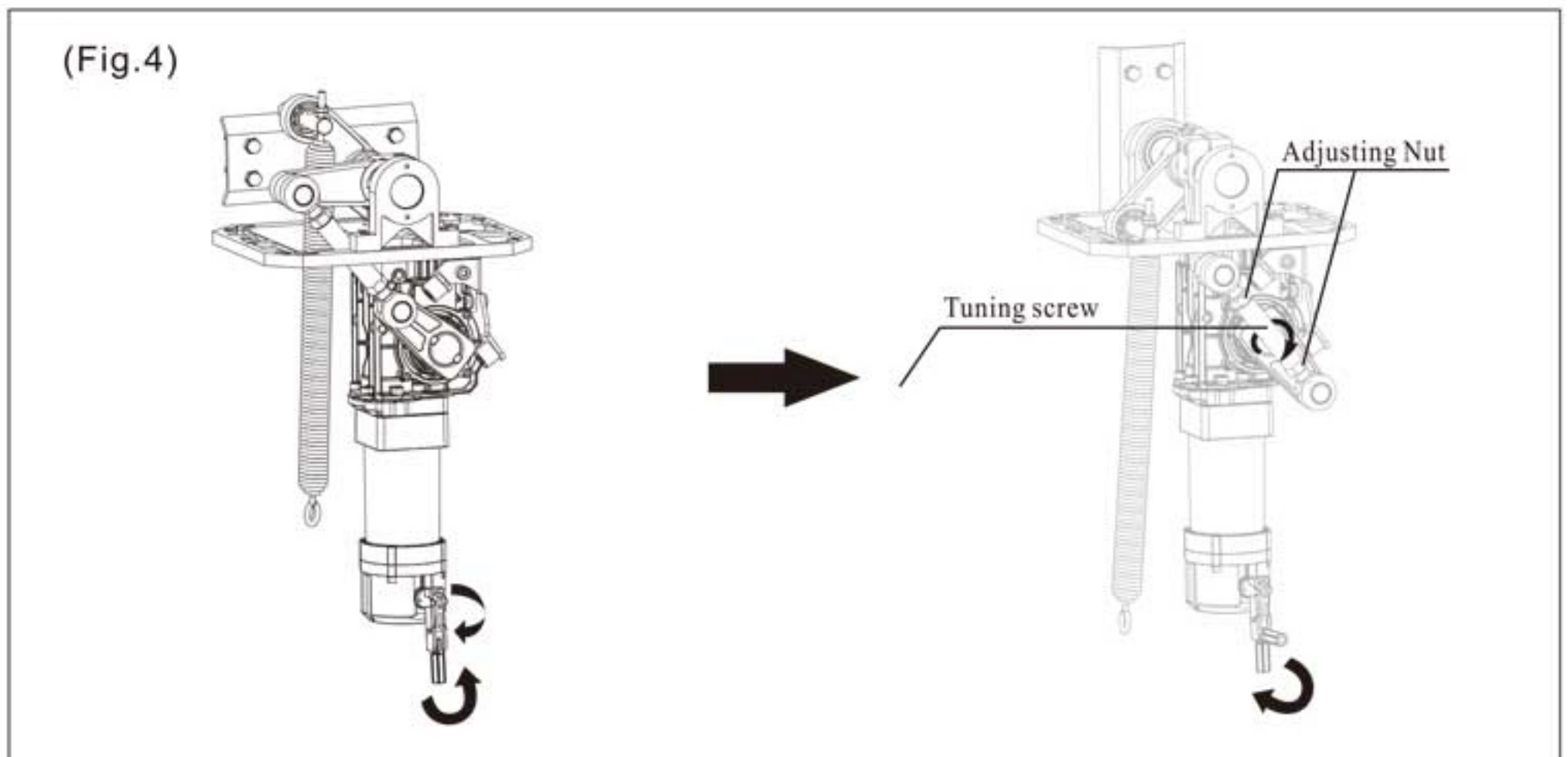
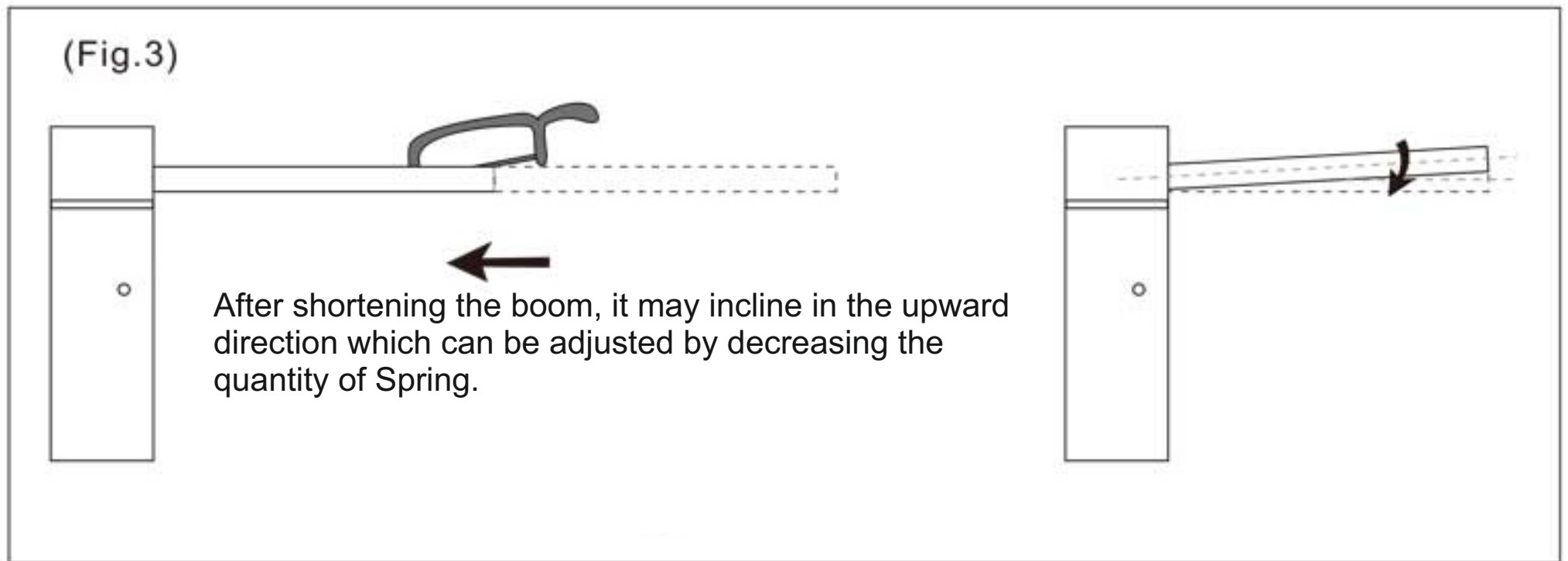


2. Install boom (Fig.2)



Adjust the Vertical and Horizontal Line of the Boom

Boom need to be shorter (Fig.3) (Fig.4)

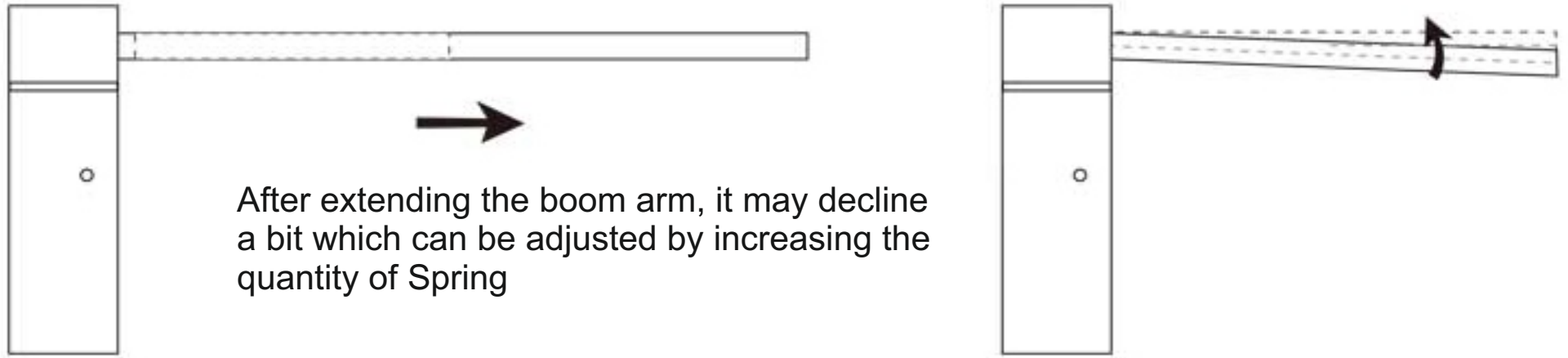


Setting up the boom in a perpendicular direction

1. Loosen the adjusting nuts.
2. Adjust the turning screw to make the boom perpendicular to the ground when in open position.
3. Tighten the adjusting nuts, once the boom is perpendicular to the ground.

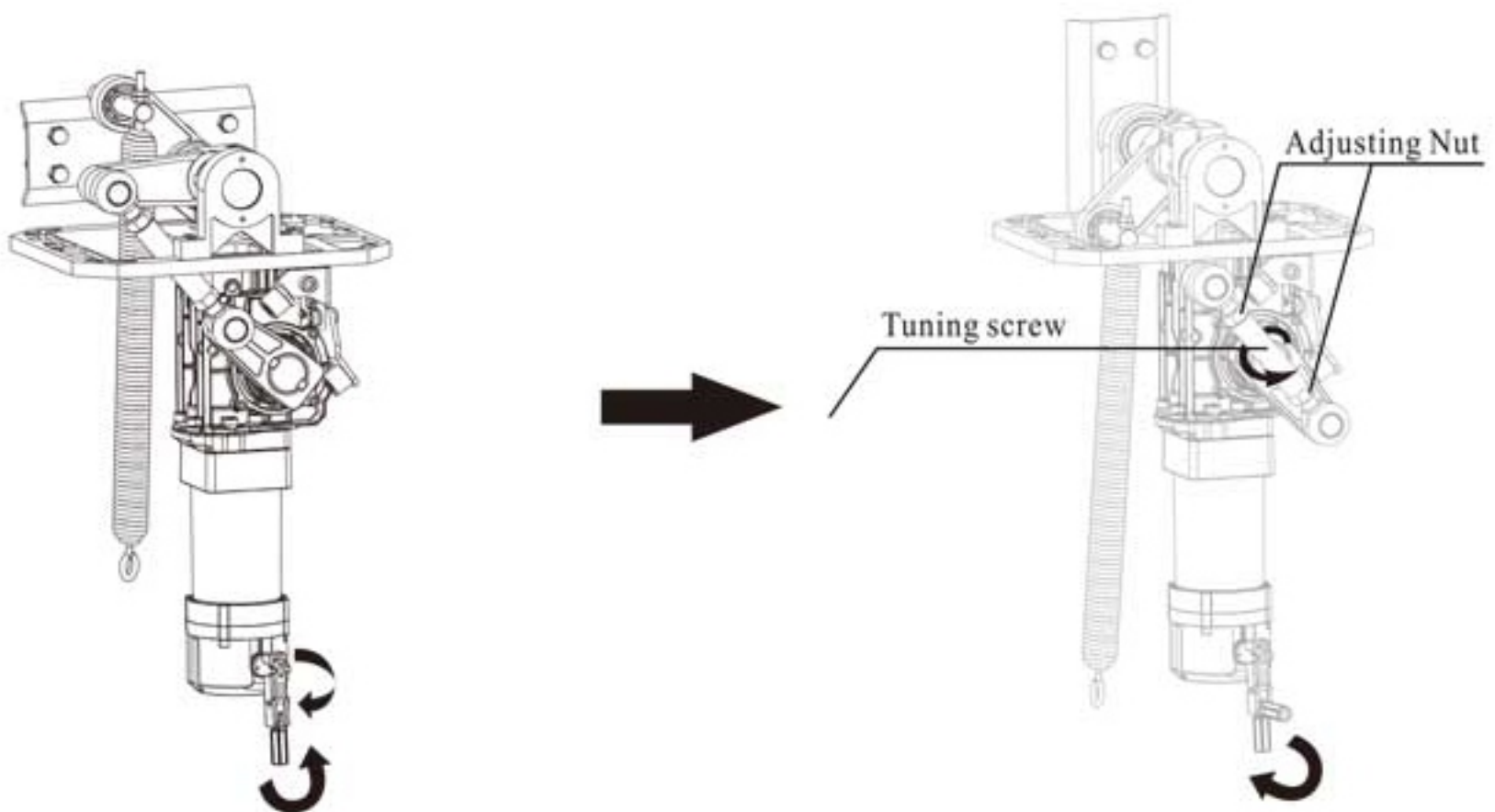
Boom need to be longer (Fig.5) (Fig:6)

(Fig.5)



After extending the boom arm, it may decline a bit which can be adjusted by increasing the quantity of Spring

(Fig:6)



Setting up the boom in a perpendicular direction



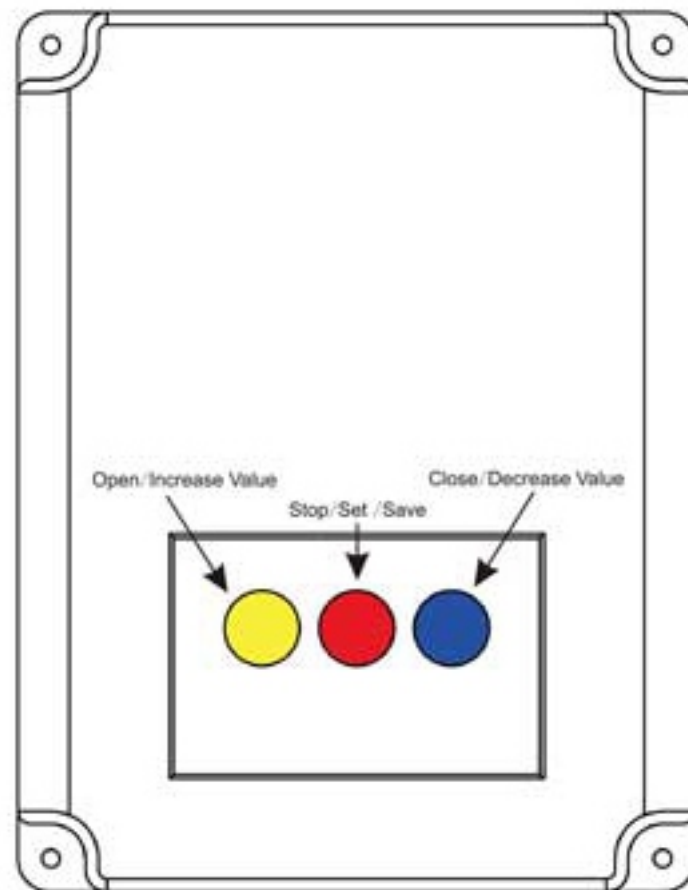
Adjust the balance of the spring with boom.

The springs have been already adjusted to balance with the boom. If the length of boom need to be changed, the springs should be re-adjusted.

See the Appendix and Fig3/Fig4/Fig5/Fig 6

1. Loosen the adjusting nuts.
2. Adjust the turning screw to make the boom perpendicular to the ground when in open position.
3. Tighten the adjusting nuts, once the boom is perpendicular to the ground.




1.1 Descriptions of Panel

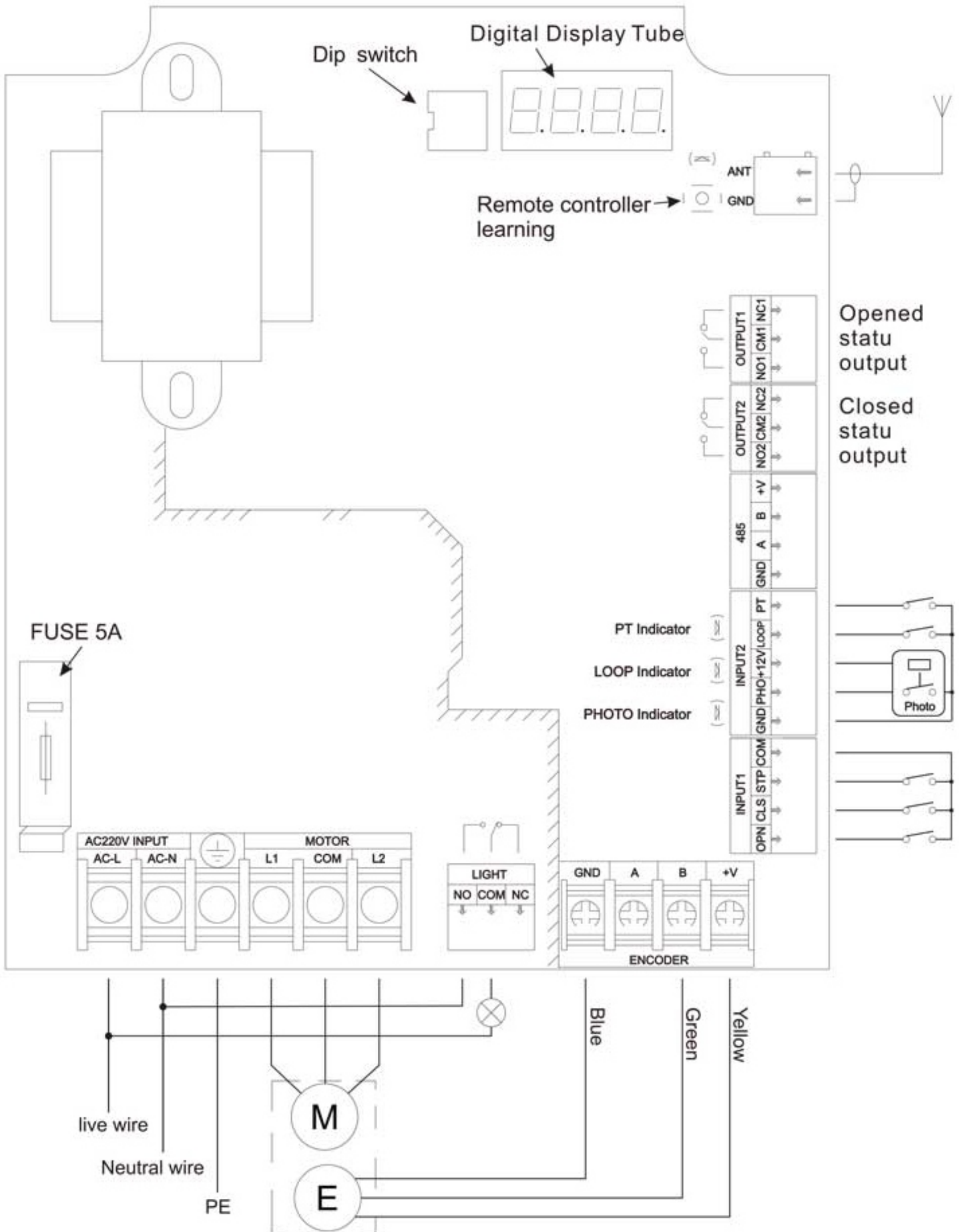


1.2 Technical Specifications

Power supply	AC 220V 50/60Hz
Standby power	<2W
Output power	750W
Operating temperature	-20℃ ~ 50℃
Storage temperature	-30℃ ~ 70℃
Humidity range	<90%

1.3 Definitions of Buttons

 Yellow	 Red	 Blue
Open/Increase Value	Stop/Set/Save	Close/Decrease Value



Main Features

1. Digital positioning, high precision, easy setting.
2. Intelligent self-checking and self-protection.
3. Delay automatic closing function
4. Safety protection function is available by the external sensors
5. Remote control
6. Counter mode

Remote Controller Operation

a) Learning transmitter code

Press “LEARN” button on the main board for one second, the LED will illuminate, then press the button you desire on the remote for one second. the LED will flash. Repeat these steps for more transmitters.

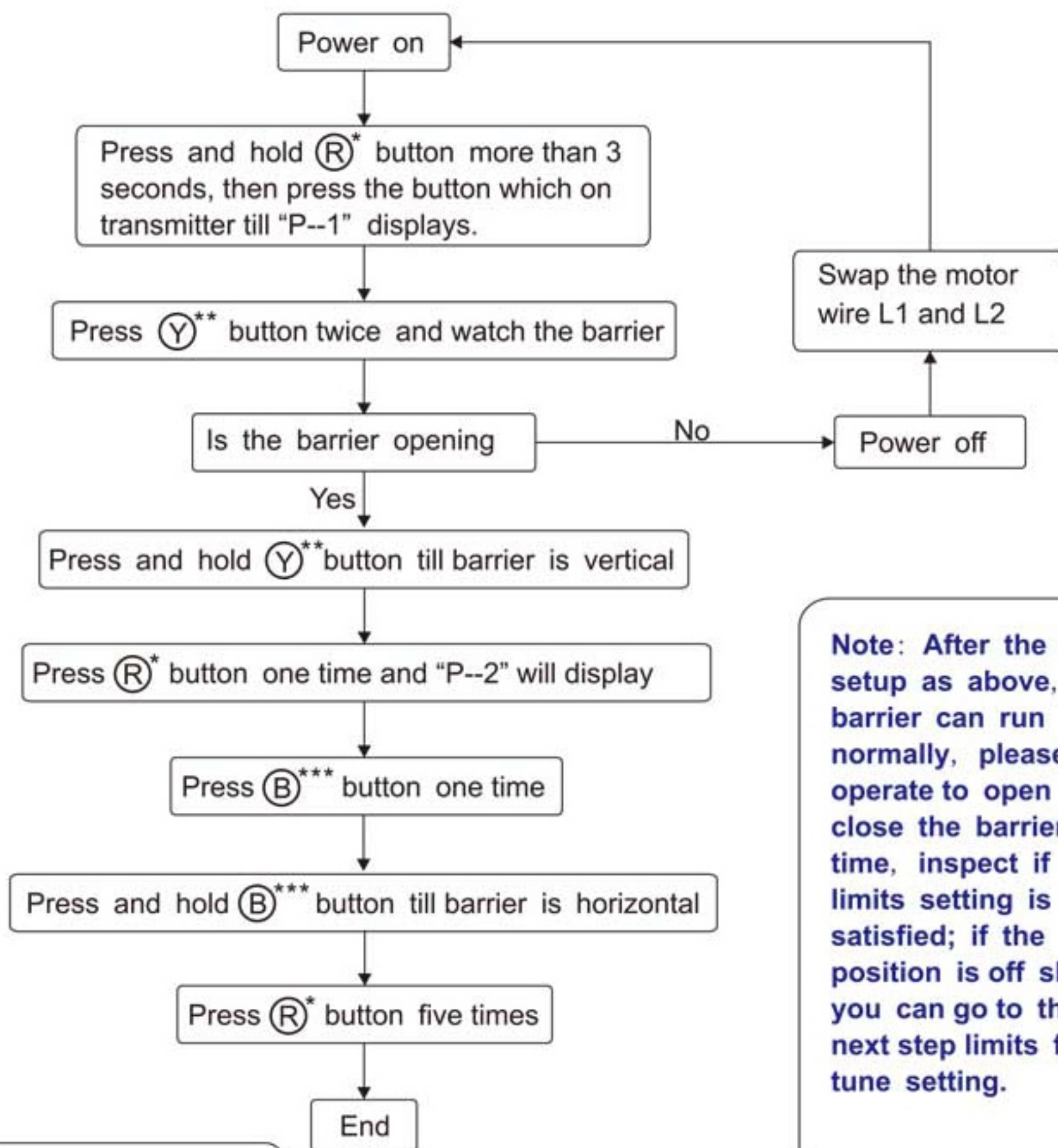
Note: 1. The original remotes are pre-programmed to do this.
2. New remotes need to be set the steps as above.

b) Erasing Transmitter Code

Press and hold the “LEARN” button for few seconds and it will delete all the stored transmitter codes.

Limit Settings

Note: For the initially installed controller, barrier has to be adjusted manually to middle position before turning on the system.



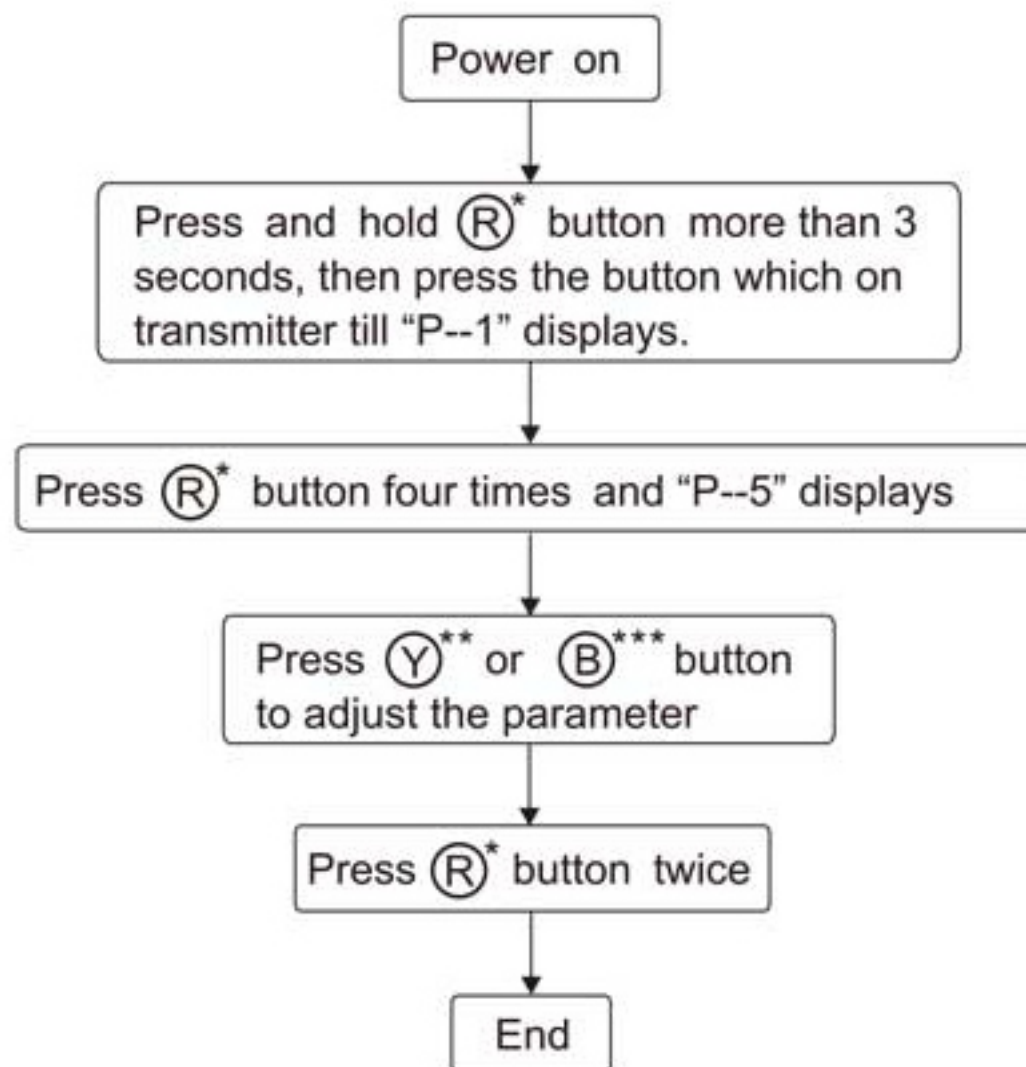
Note: After the quick setup as above, the barrier can run normally, please operate to open and close the barrier each time, inspect if the limits setting is satisfied; if the position is off slightly, you can go to the next step limits fine-tune setting.

(R)* = Red button;
(Y)** = Yellow button;
(B)*** = Blue button;

Delay Automatically Close Settings

Boom arm will close automatically after a set time when it is in open position.

Note1: The factory default value is "0", means that the function is cancelled.
Note2: The maximum delay value is 99 seconds.

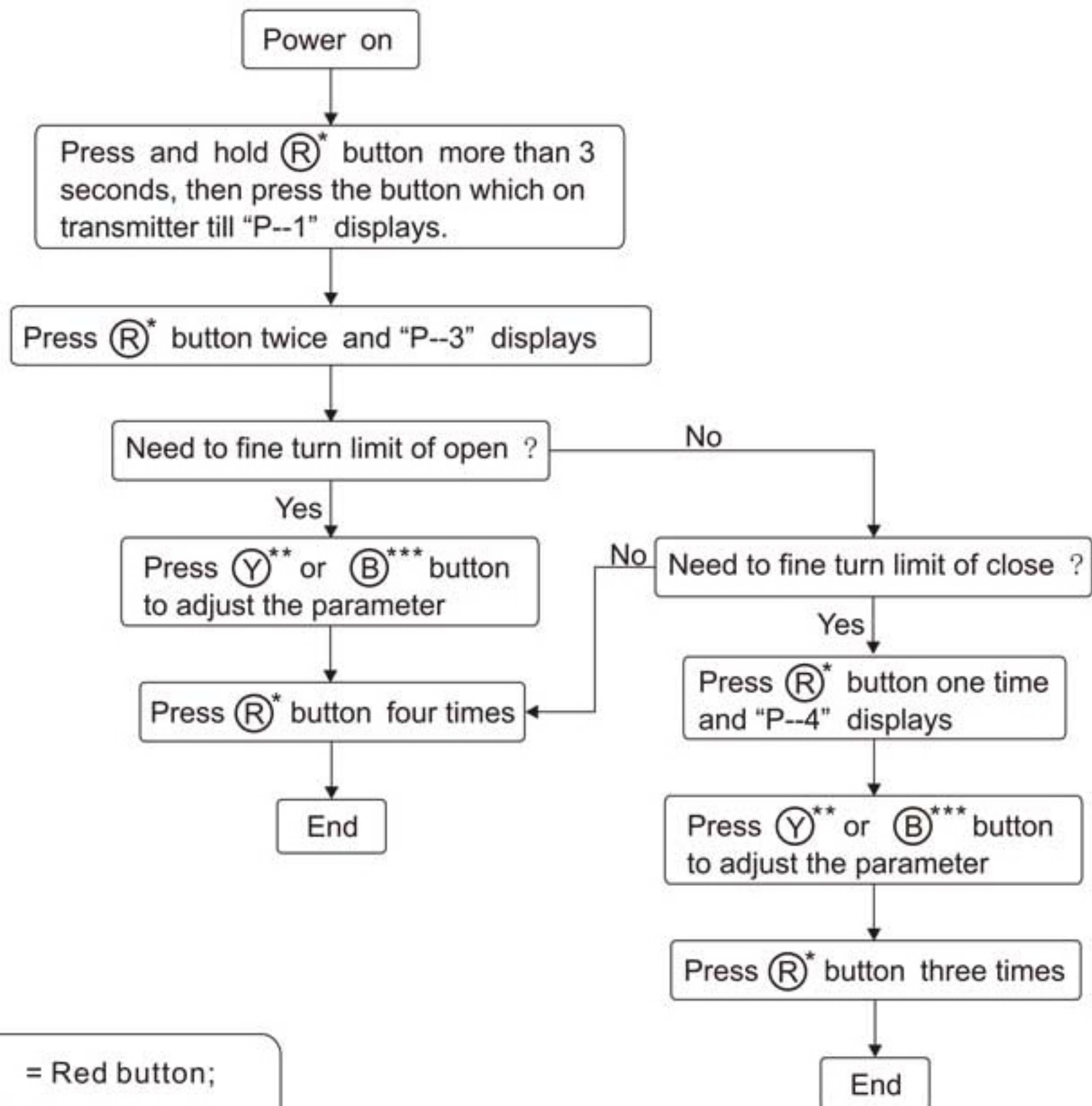


Note: Press and hold (Y)** or (B)*** button, the parameter will increase or decrease .

(R)* = Red button;
(Y)** = Yellow button;
(B)*** = Blue button;

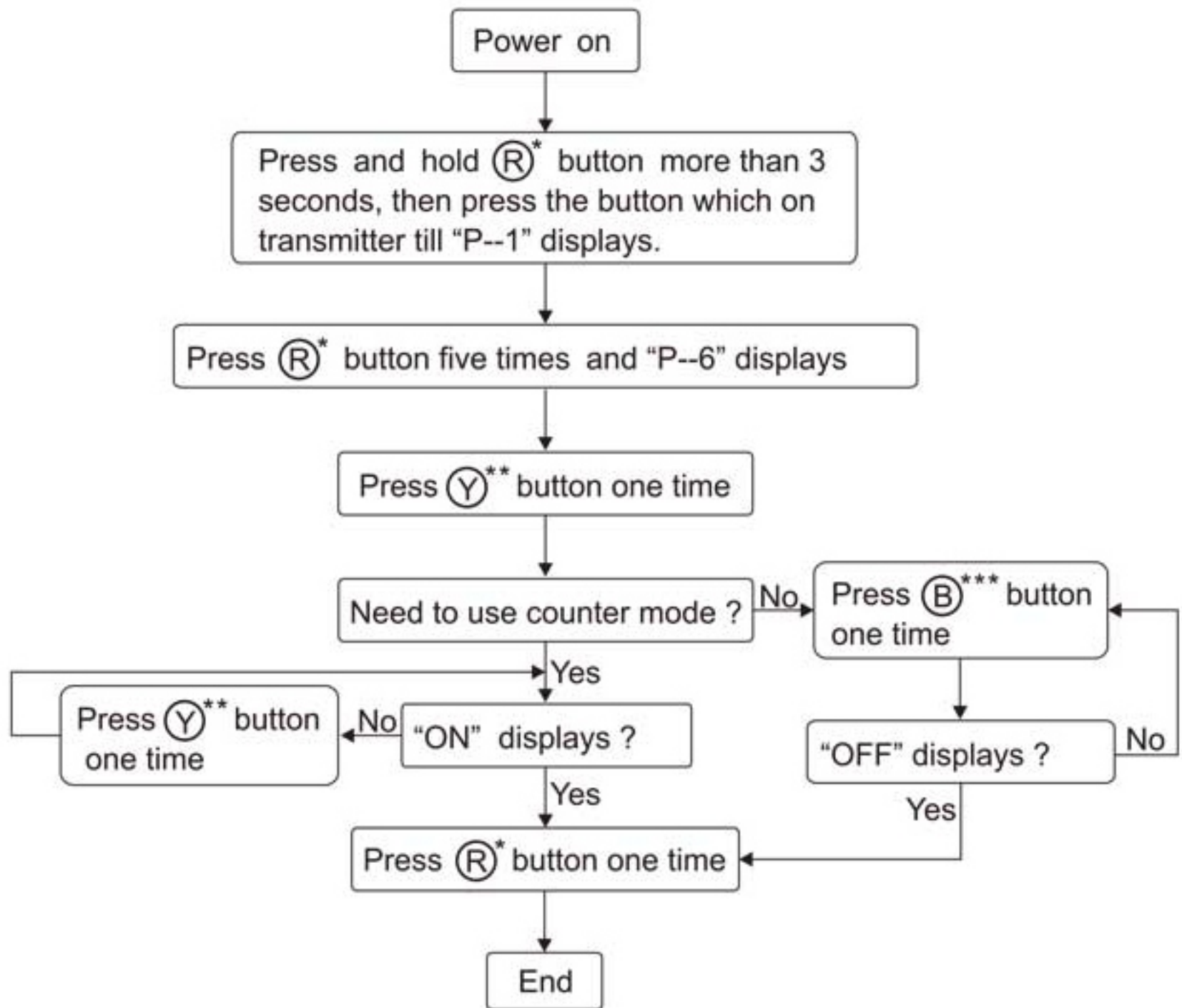
Limit Fine Tune Settings

Note: if you expect the boom to stop behind the original set position, please press **Ⓨ^{**}** button;
if you expect the boom to stop before the original set position, please press **Ⓑ^{***}** button.



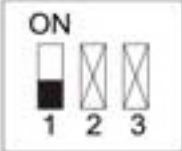
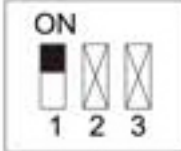

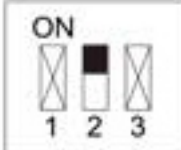
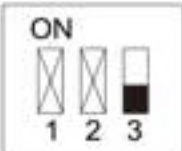
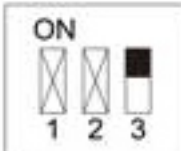
Ⓡ* = Red button;
Ⓨ** = Yellow button;
Ⓑ*** = Blue button;

Function description: When there are multiple open signals, the boom will not close until the same amount of vehicles as the signal's pass the loop.



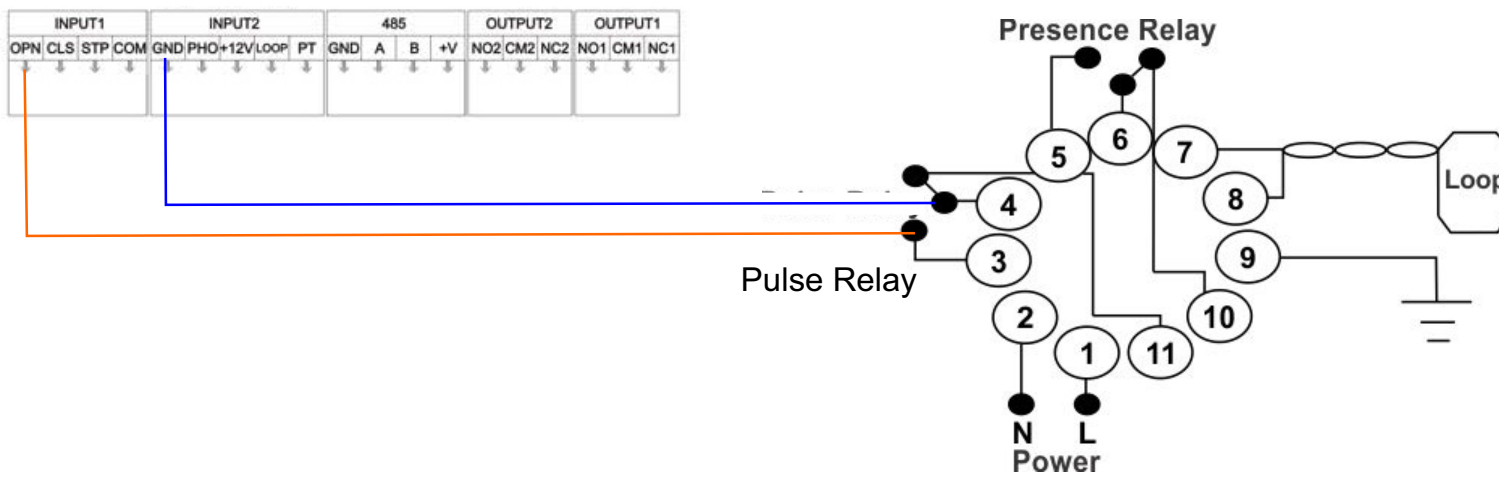
- (R)* = Red button;
- (Y)** = Yellow button;
- (B)*** = Blue button;

DIP Switch Setting

<p>Lamp mode setting</p>		<p>Please set as left figure if an alarm lamp is connect.</p>	<p>Please set as right figure if a red/green lamp is connect.</p>	
<p>Selection of protection signal type (Normally open or Normally close)</p>		<p>Please set as left figure if the output signal from protector is normally open. The protector is photocell, air wave, loop, etc.</p>	<p>Please set as left figure if the output signal from protector is normally close. The protector is photocell, air wave, loop, etc.</p>	
<p>Selection of display mode</p>		<p>Please set as left figure if you want it to display the running status of the barrier.</p>	<p>Please set as left figure if you want it to continuously display the encoder value.</p>	

APC Loop Detector for Auto Gate Opening

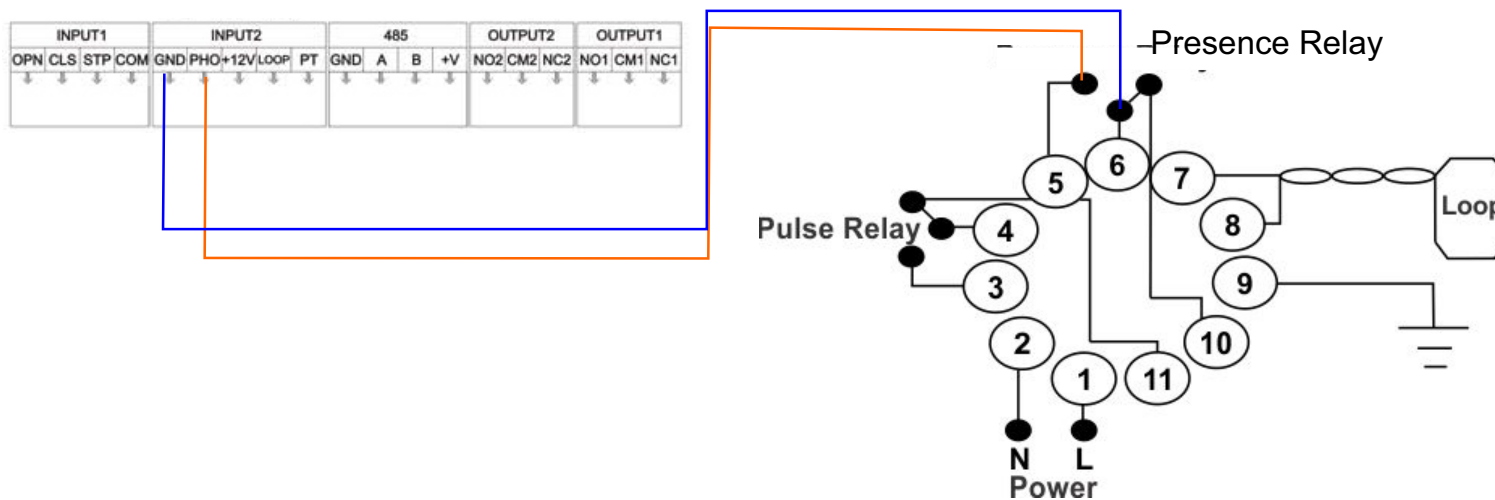
The APC-LD1 can be used for automatic opening when it senses a vehicle. It must be used in conjunction with the specific loop detector wire.



A PE sensor setup set MUST be used in this application.

APC Loop Detector as a safety device

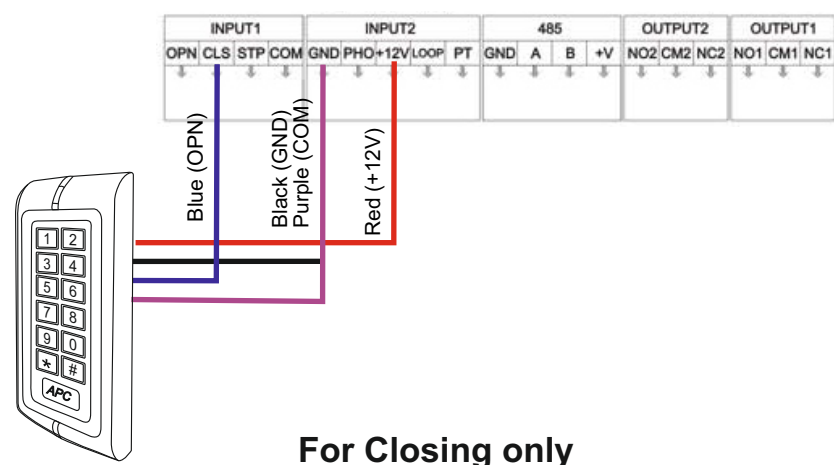
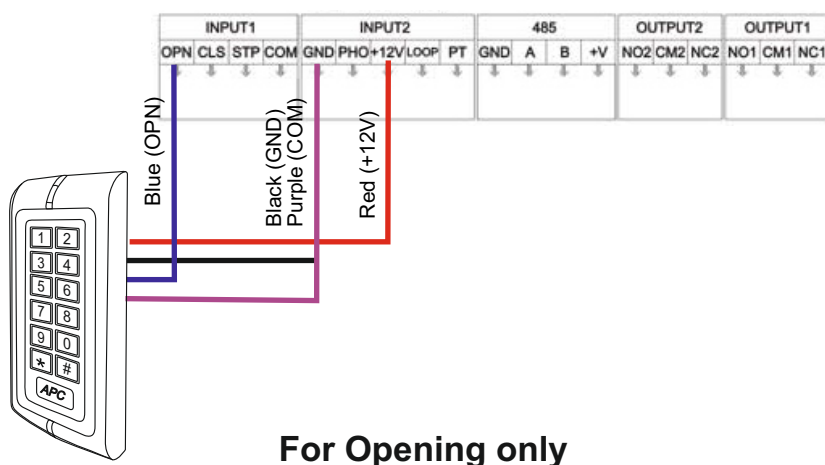
The APC-LD1 can be used for closing prevention whilst a vehicle is in the general gate area. It must be used in conjunction with the specific loop detector wire.



Connecting an APC Keypad (APC-KP1-C)

Unlike a push button entry switch using a keypad can provide a much higher security for access control for guests, workers, tenants etc.

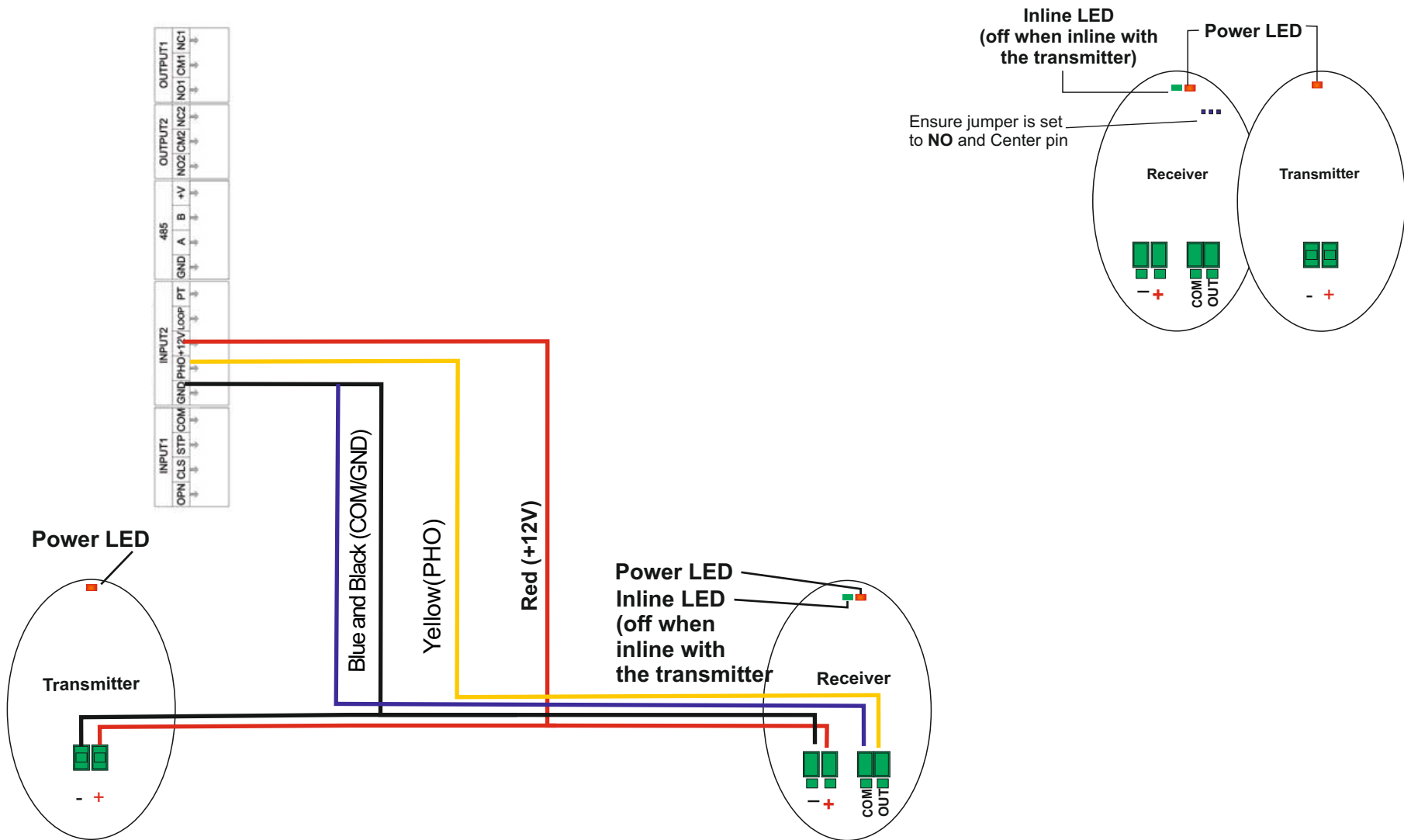
Using a keypad will allow you to manage the users by adding and deleting as required. Its backlit illumination also allows for ease of use at night.



Connecting a Single PE Sensor (APC-PE-2000)

APC-PE-2000 PE sensor (Transmitter & Receiver) **must be connected back to the control board**.
Install the PE-2000 Photoelectric sensor on the first entry point of the driveway from post to post at approx. 500mm above ground level.

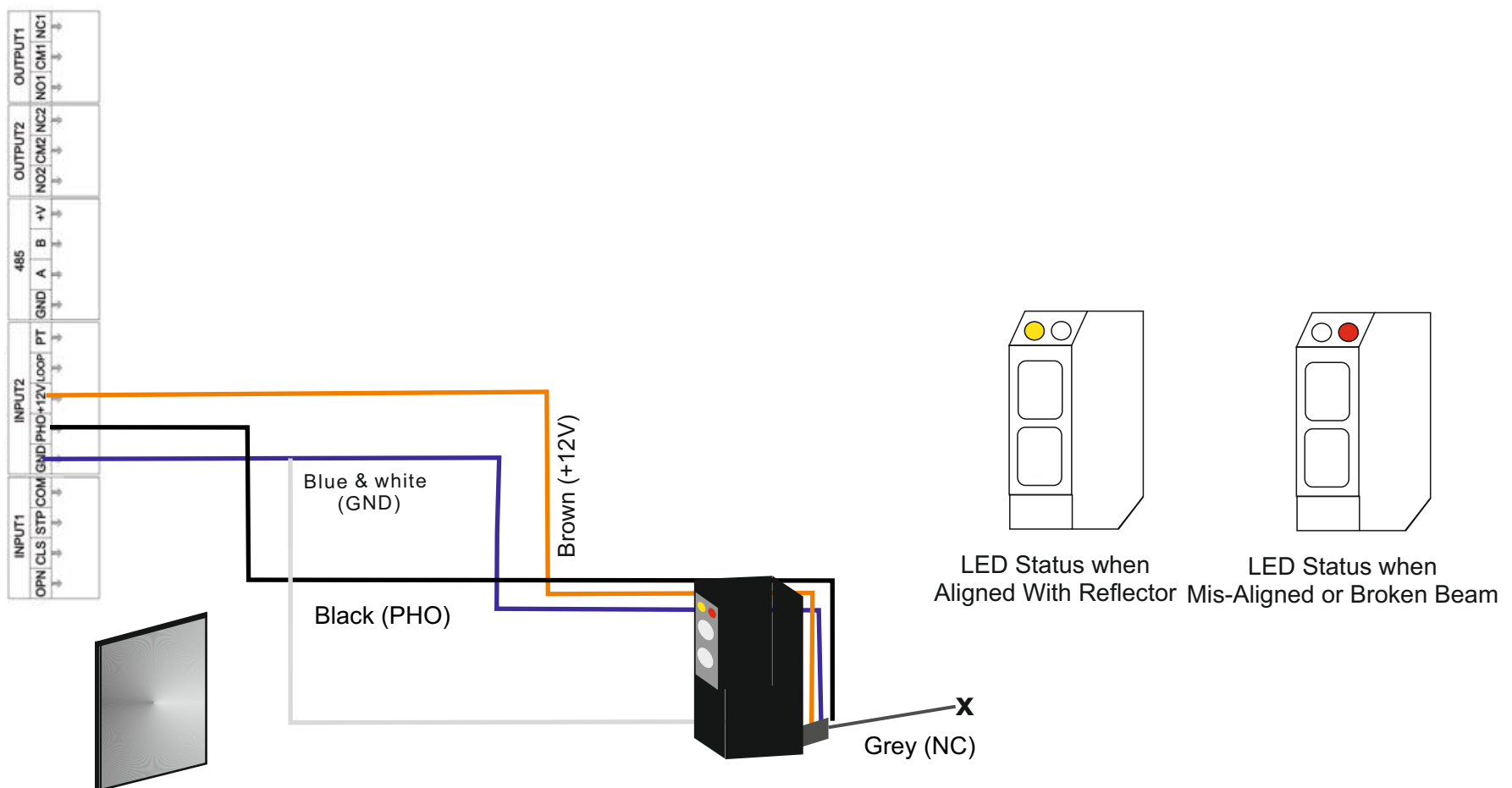
The Transmitter and the Receiver must be inline with each other
(The inline LED will be off when aligned with the transmitter).



Connecting a Single Retro Reflective Sensor (APC-RR-11)

APC-RR-11 Reflective sensor (Transmitter only) **must be connected back to the control board** (see wiring diagram).
Install the RR-11 Reflective sensor on the first entry point of the driveway from post to post at approx. 500mm above ground level.

The Transmitter and the Reflector must be inline with each other
(The yellow inline LED will be ON when Aligned with the transmitter).



Error Codes Table

Code	Meaning	Solution
Err1	Encoder signal is invalid	Check the signal wires and connectors
Err2	Barrier operation timeout	Check the mechanical system
Err3	Motor Locked Rotor	<ol style="list-style-type: none"> 1. Check the mechanical system 2. Check motor wires connectors
Err7	Photocell is triggered	Remove the object that block the photocell
Err8	Air wave is triggered	Remove the object that block the air wave
ErrA	Parameter of limit is invalid	Set parameter "P--1" & "P--2" again, refer to page 6.

(((APC))) Automation Systems

APC WARRANTY

APC warrants the original purchasers or the APC gate(s) opening system for a period of twelve months from the date of purchase (not installation), the product shall be free of defects in materials and workmanship under normal use.

During the warranty period, APC shall, as its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials.

Any replacement and/or repaired parts are warranted for the remainder of the original warranty,

The original owner must promptly notify APC in writing that there is defect in material or workmanship, such written notice must be received in all events prior to expiration of the warranty.

International Warranty

APC shall not be responsible for any freight fees, taxes or customs fees.

Warranty Procedure

To obtain service under this warranty, AND AFTER CONTACTING APC, please return the item(s) in question to the point of purchase.

All authorized distributors and dealers have a warranty program, anyone returning goods to APC must first obtain an authorization number. APC will not accept any shipment for which prior authorization has not been used.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- Damage incurred in shipping or handling
- Damage caused by disaster such as fire, flood, wind, earthquake or lightning
- Damage due to causes beyond the control of APC such as excessive voltage, mechanical shock or water damage
- Damage caused by unauthorized attachment, alterations, modifications, or foreign objects.
- Damage caused by peripherals (unless such peripherals were supplied by APC)
- Defects caused by failure to provide a suitable installation environment for the products
- Damage caused by usage of the products for purpose other than those for which it was designed.
- Damage from improper maintenance
- Damage arising out of any other abuse, mishandling, and improper application of the products.

Under no circumstances shall APC be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose). And of all other obligations or purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

Out of Warranty Repairs

APC will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to APC must first obtain an authorization number.

APC will not accept any shipment whatsoever for which prior authorization has not been obtained. Products which APC determines to be repairable will be repaired and returned. A set fee which APC has been predetermined and which may be revised from time to time will be charged for each unit repaired. Products which APC determines not repairable will be replaced by the nearest equivalent product available at that time. The current market price for the replacement product will be charged for each replacement unit.