

# INDUSTRIAL AND COMMERCIAL ROLLER DOOR OPERATOR

## **KG100/KG120S/KG200S**

### Installation and Users Manual

#### **WARNING**

**ONLY QUALIFIED AND EXPERIENCED  
TECHNICIANS SHOULD ATTEMPT  
INSTALLATION OR SERVICE TO THIS UNIT,  
OTHERWISE, SERIOUS PERSONAL INJURY,  
DEATH, OR PROPERTY DAMAGE MAY OCCUR.  
SAVE THESE INSTRUCTIONS.**



**Total Door Automation (Australia) Pty Ltd**

[www.totaldoorautomation.com.au](http://www.totaldoorautomation.com.au)

[sales@totaldoorautomation.com.au](mailto:sales@totaldoorautomation.com.au)

Technical Support 1800 AUSTDA (1800 287 832)

## **TABLE OF CONTENTS**

<b>Safety Instructions</b>	<b>3</b>
<b>Identifying Your Operator</b>	<b>4</b>
<b>General Description</b>	<b>5</b>
<b>Technical Parameters</b>	<b>5</b>
<b>Installation</b>	<b>5</b>
<b>Electrical Connection</b>	<b>8</b>
<b>Control Box</b>	<b>8</b>
<b>Wiring</b>	<b>11</b>
<b>Setting and Programming</b>	<b>13</b>
• P1 Running Time	<b>13</b>
• P2 Infrared Photocell & Safety Edge Switch	<b>13</b>
• P3 Door Operation	<b>13</b>
Inching Down Mode	<b>13</b>
Latching Down Mode	<b>13</b>
• P4 AutoCloseTime	<b>13</b>
<b>Open and Closed Limits Switch Settings</b>	<b>14</b>
• Open Limit Setting	<b>14</b>
• Closed Limit Setting	<b>14</b>
<b>Error Messages</b>	<b>14</b>
<b>Adding / Remove Remote Controls</b>	<b>15</b>
<b>In Case of Power Failure</b>	<b>16</b>
<b>Maintenance</b>	<b>17</b>
<b>Troubleshooting</b>	<b>17</b>
<b>Packing List</b>	<b>18</b>

## SAFETY SYMBOL AND SIGNAL WORD REVIEW

This door operator has been designed and tested to offer service provided it is installed, operated, maintained and tested in strict accordance with the instructions and warnings contained in this manual.



When you see these safety symbols and signal words on the following pages, they will alert you to possibility of serious injury or death if you do not comply with the warnings and accompany them. The hazard may come from something mechanical or from electric shock.

When you see this signal word on the following pages, it will alert you to the possibility of damage to your door and /or door operator if you do not comply with the cautionary statements that accompany it.

### THESE ARE IMPORTANT SAFETY INSTRUCTIONS. FOLLOW ALL INSTRUCTIONS AS INCORRECT INSTALLATION CAN LEAD TO SEVERE INJURY OR DEATH



The door operator should be installed and put into operation by qualified personnel. Otherwise, serious personal injury or property damage may occur.



Locate any fixed control: within sight of door but away from all moving parts of the door and at a height of more than 1.4m above the ground to avoid children reaching it. Keep remote controls away from children, to prevent the door operator from being activated involuntarily.



The door must be equipped with balance springs, otherwise the operator will be damaged. Before installation of the door operator, the door should be carefully checked for being kept well balance. The door must be in good working order.



The operator should be switched off before repairing it or opening its cover.



Installation and wiring must be in compliance with your local building and electrical codes. Connect the power supply cord only to properly earthed mains.



The operator may only be repaired with the door closed.



When opening or closing the door, do not attempt to walk or drive through the door.



Open and close the door manually, make sure the door can be moved smoothly.



The door should only be operated when it can be observed to avoid accidents.



The door operator must be grounded.



Do not pull the hand chain during opening or closing the door.



It is recommended to install limit devices on door tracks to prevent the door from sliding out of the tracks.

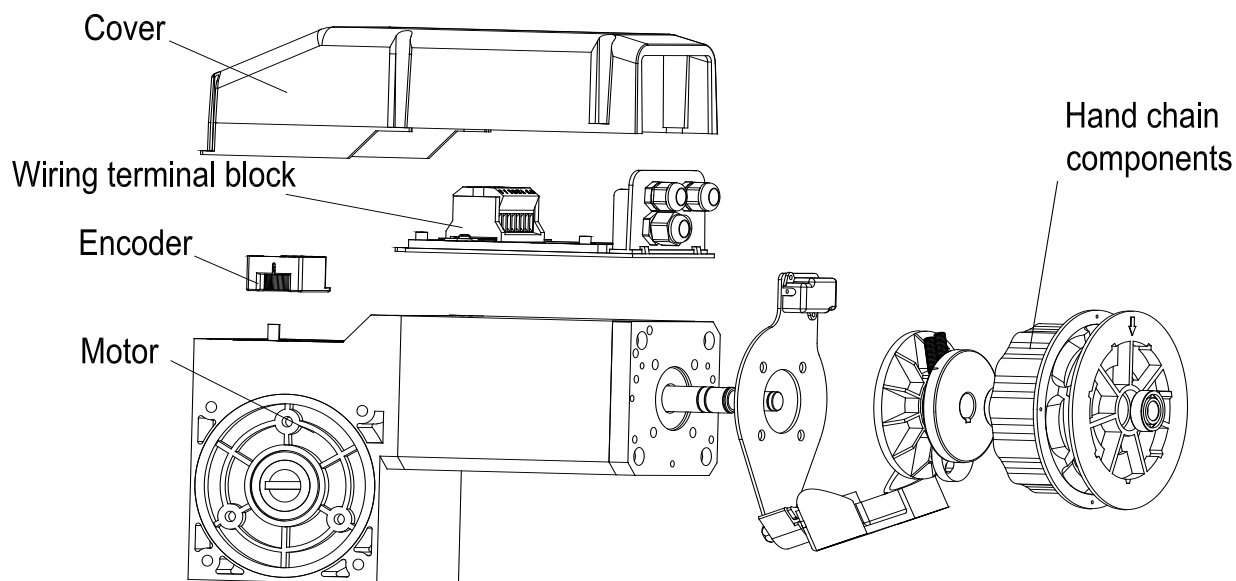


Our company reserves the right to change the design and specification without prior notification.



**WARNING:** Important safety instructions. It is important for the safety of persons to follow all instructions. **SAVE THESE INSTRUCTIONS.**

## IDENTIFYING YOUR OPERATOR



Appearance may vary with different motor, gearbox and controller types

Fig.1

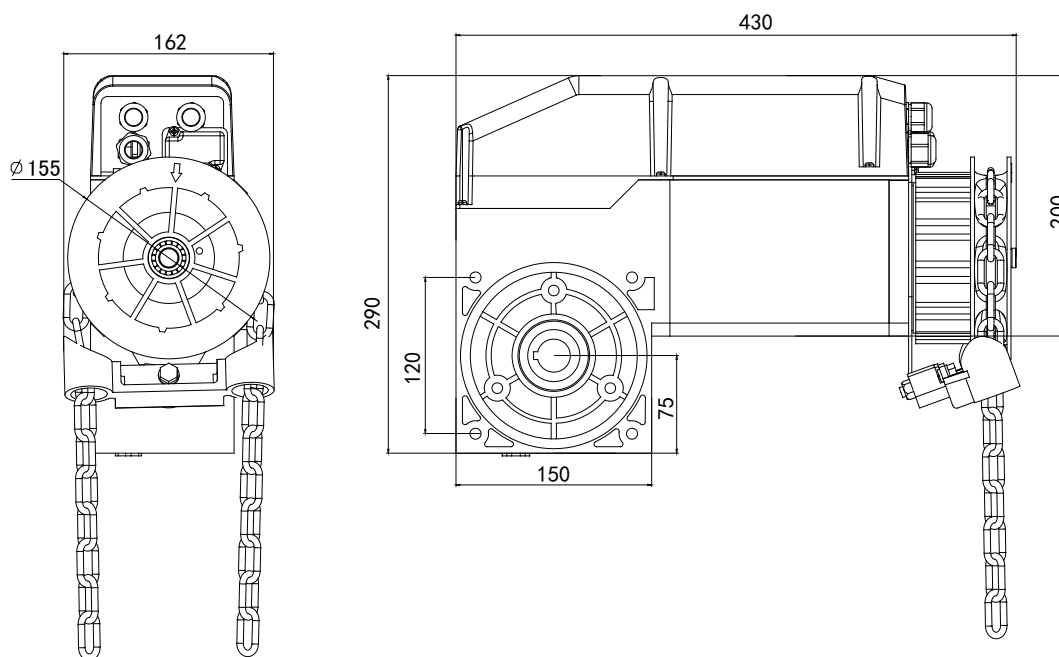


Fig.2

### CAUTION

Please remove any locks fitted to the door before operation in order to prevent damage to the door.



### WARNING

Make sure that people who install, maintain or operate the door follow these instructions. It is advised that the instruction be kept in a safe place so that you can refer to them quickly when you need to.

## GENERAL DESCRIPTION

Identify the type and dimensions of your door. A check of the application is recommended to ensure suitability of the operator model to the door.

The door operator is applied widely to warehouse, industrial or commercial buildings. It is featured with compact structure, safe and reliable performance.

## TECHNICAL PARAMETERS

Model	KG100	KG120S	KG200S
Power Supply	240V	415V	415V
Motor Power	750W	1000W	1400W
Output Torque	140N·m	180N·m	280N·m
Thermal Protection Temperature	130°C	120°C	130°C
Work Duty	S2-10min, S3-25%	S2-20min, S3-25%	S2-15min, S3-25%
Motor Speed	1400rpm		
Reduction Ratio	57:1		
Max. Travel Distance	18 Cycles		
Net Weight	22Kg		
Dimension	430mm×290mm×162mm		
Environment temperature	-20°C ~ +40°C		

## INSTALLATION

### CAUTION

Before installing the operator, check that the door is in good mechanical condition, correctly balanced and opens and closes properly. We advise to install the operator as right.



### WARNING

The door guides must be fitted with mechanical stops that prevent the bottom rail from passing through in the opening direction.

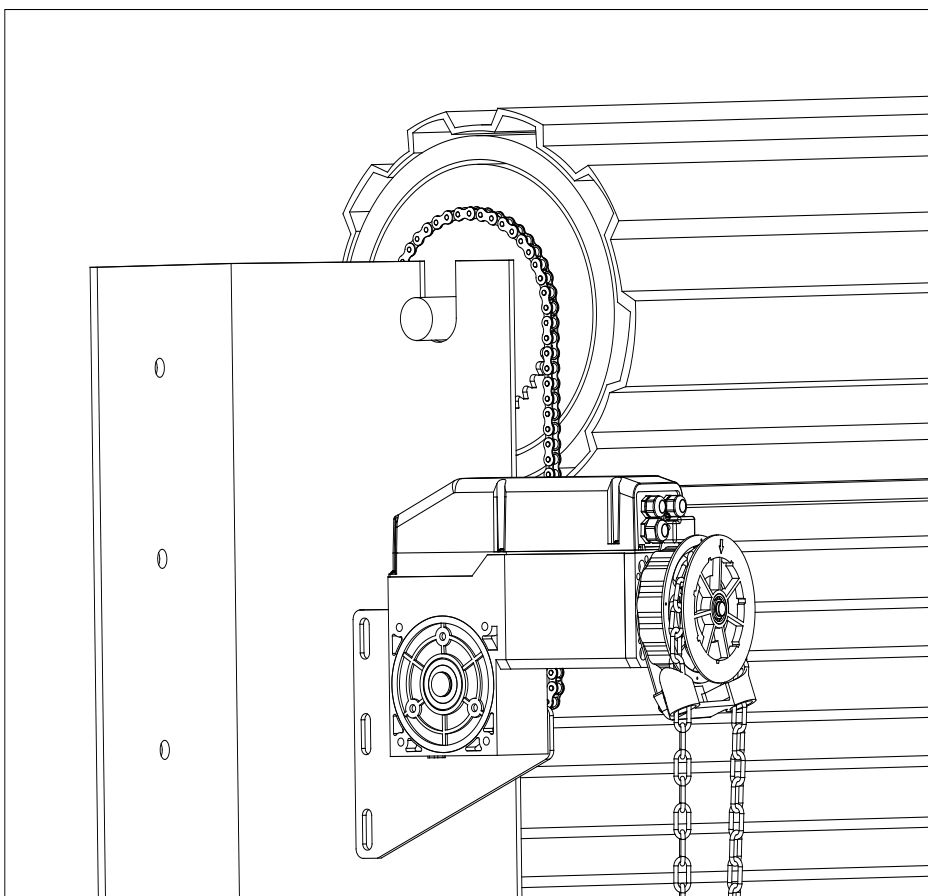


Fig.3

## Mounting the unit

The operator mounted below the door drum so that the operator shaft points toward the door opening and lies beneath the sprocket of the door drum. For mounting you will need to either secure the operator to the roller shutter head plate with prepared holes or slots, or use a mounting plate that will need fixing via a wall angle or similar existing structure.

**Note: the operator is not designed to be installed upside down. The chain guide must not be repositioned.**

Fig.4: When assessing and selecting an appropriate mounting location, the following considerations should be made:

- Must have minimum distance of 15mm between mounting plate and door drum sprocket.
- Must have minimum distance of 20mm between operator and imposing structure.
- Must have minimum overhead clearance of 150mm from the main control housing.

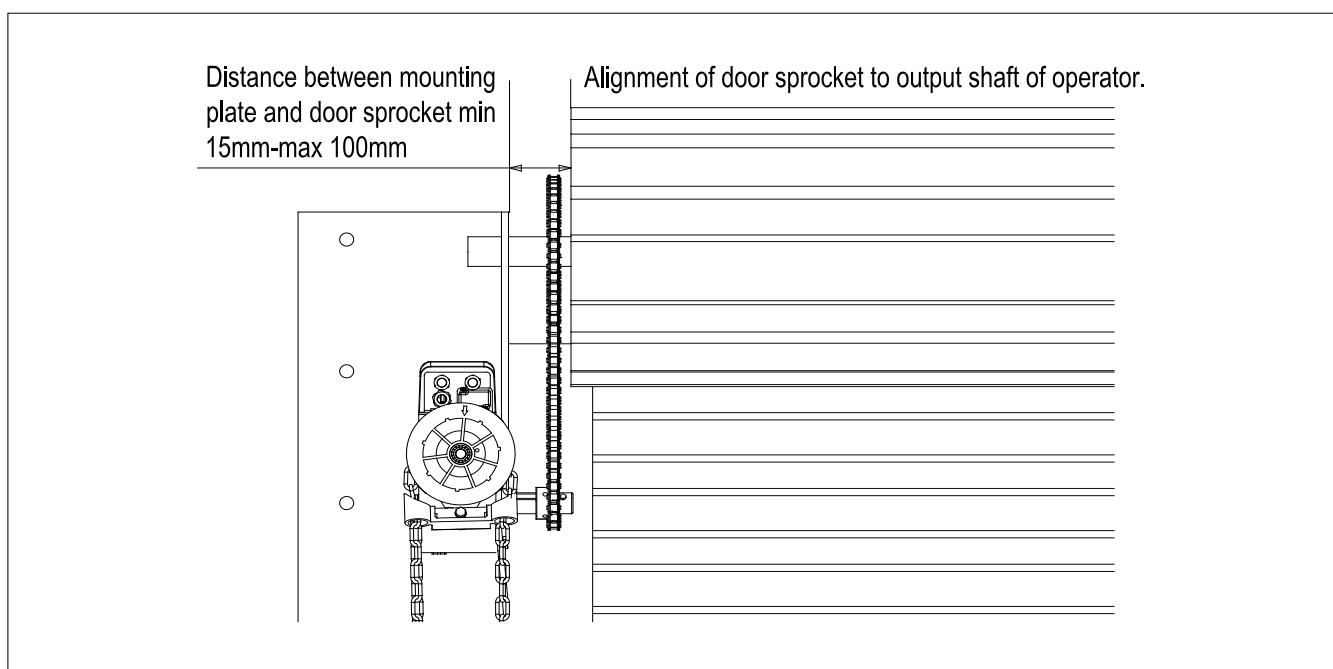


Fig.4

Fig.5: Mounting plate slots allow the chain tension to be adjusted through vertical movement of the operator.

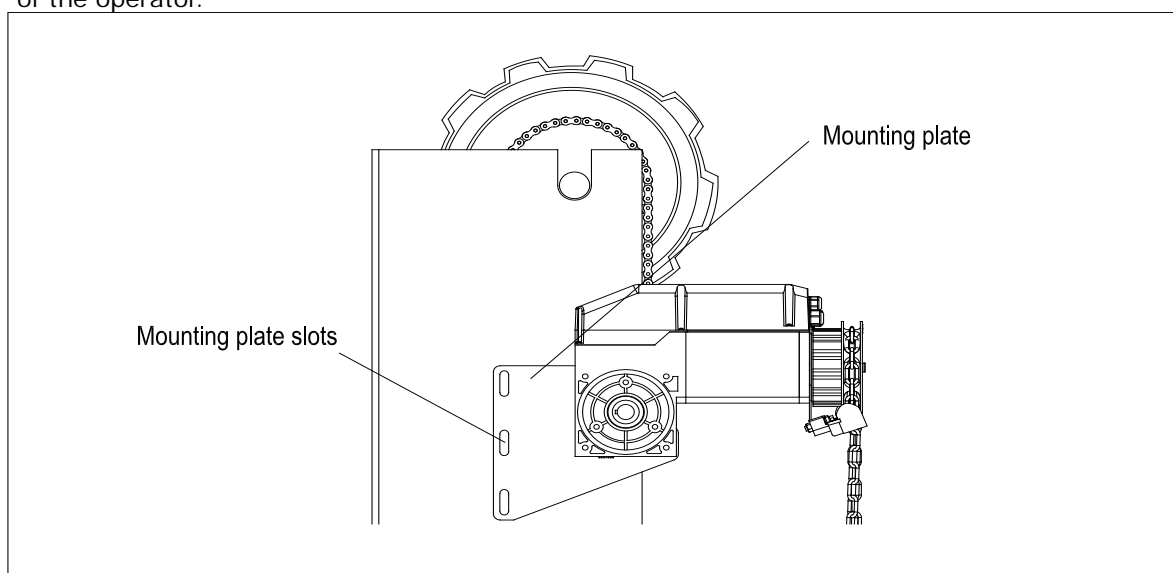


Fig.5

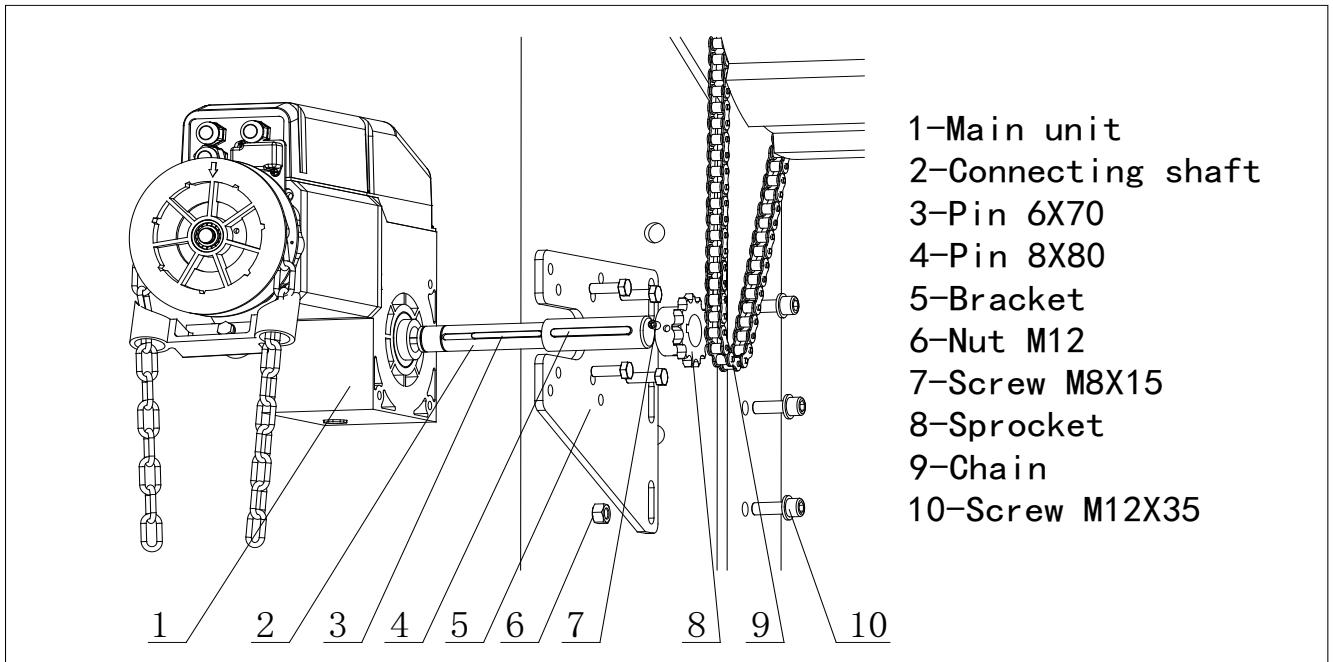


Fig.6

Fig.7: Make sure there are sufficient side room (20mm minimum) and head room (150mm Minimum) to allow servicing, where there is insufficient side room or head room, consider using the other mounting bracket or please contact your local dealer for information.

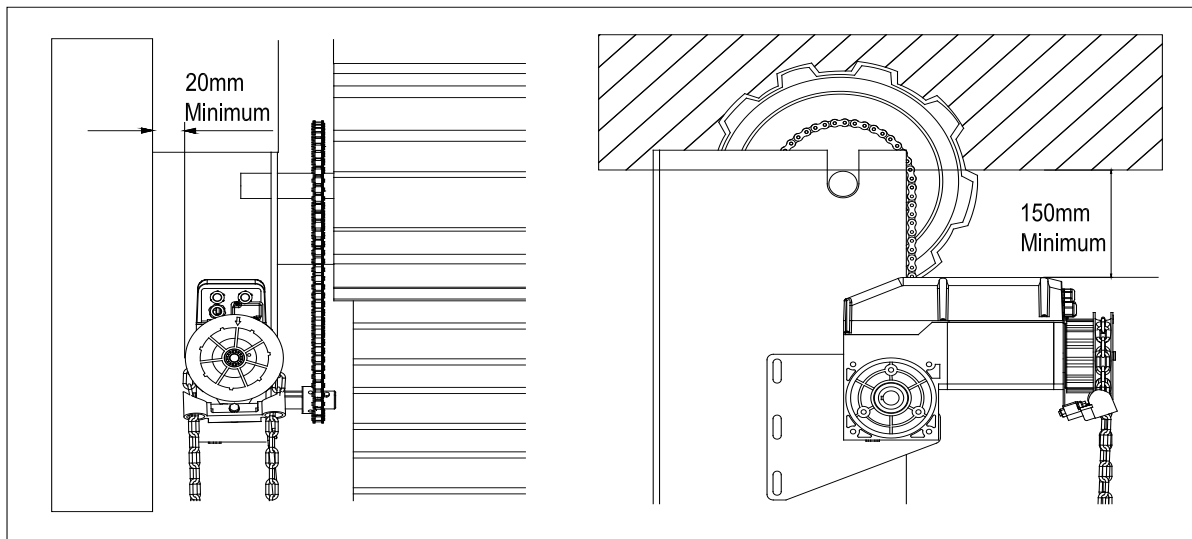


Fig.7

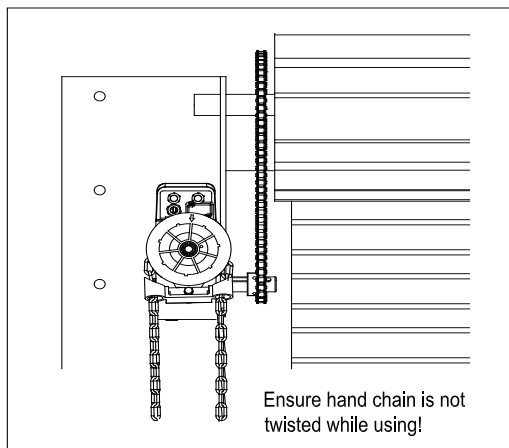


Fig.8

### CAUTION

Motor may become hot during operation. Appropriate clearance and /or shielding should be supplied by the installer to ensure any cabling, wiring or other items cannot come in contact with the motor.



## ELECTRICAL CONNECTION

### The operator must:

- Be connected via an approved electrical isolation device.
- Be connected via a suitable circuit breaker that disconnects all live conductors.
- Be connected in accordance with the wiring rules of the country in which it is installed.

### Note:

- Locate control box: within sight of door but away from all moving parts of the door and at a height of more than 1.4m above the ground to avoid children reaching it.
- The operator must be well grounded.
- Wires within the cable shall be protected so that no damage can result from contact with any rough, sharp part. In order to protect electrical elements from water, waterproof adapter must be tightened by turning the plastic nut.
- In an emergency, press the red emergency switch on the control box can cut off the power of control unit immediately. Rotate the switch in arrow direction to make the switch return to its original position and resume normal operation.

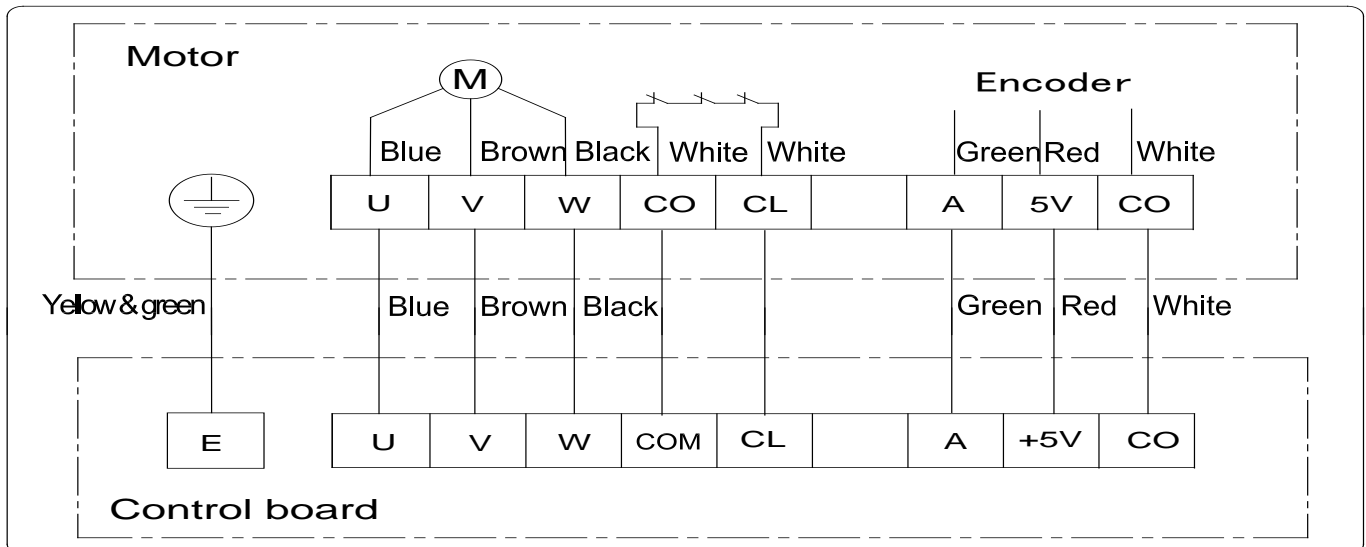


Fig.9

### CONTROL BOX

Three buttons on the control box.

In an emergency, press the emergency button can cut off the power of control unit immediately.

Rotate the emergency switch to ensure that the button returns to its original position.



### CAUTION

When the door reaches fully closed or opened position, make sure that the limit switches are activated.



### WARNING

Please use the control box to adjust the end positions, DO NOT use remote control.



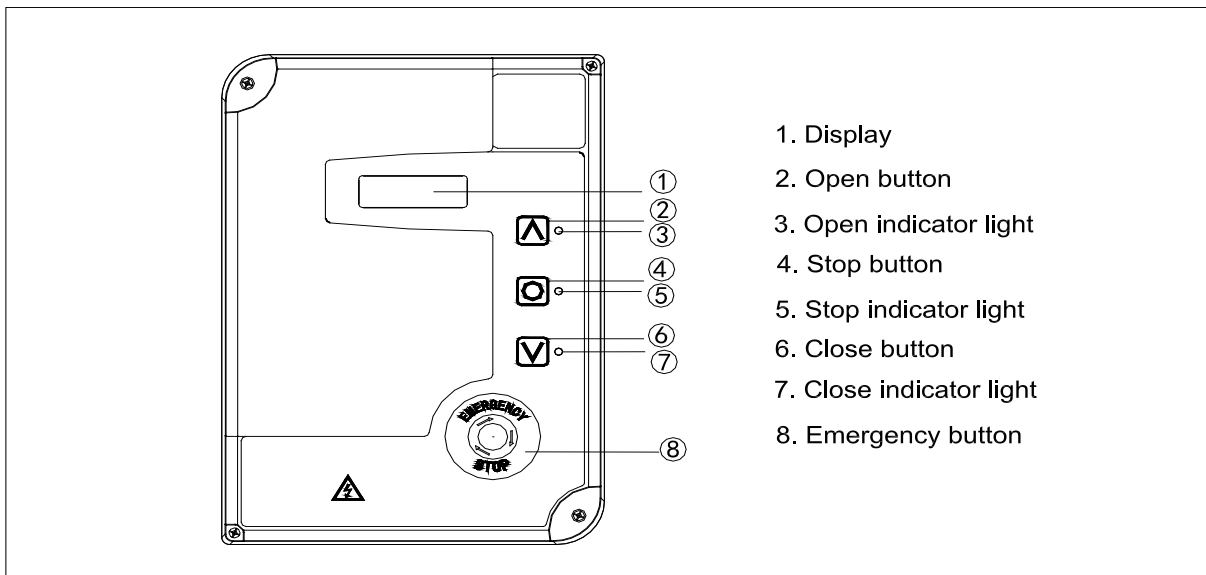


Fig.10

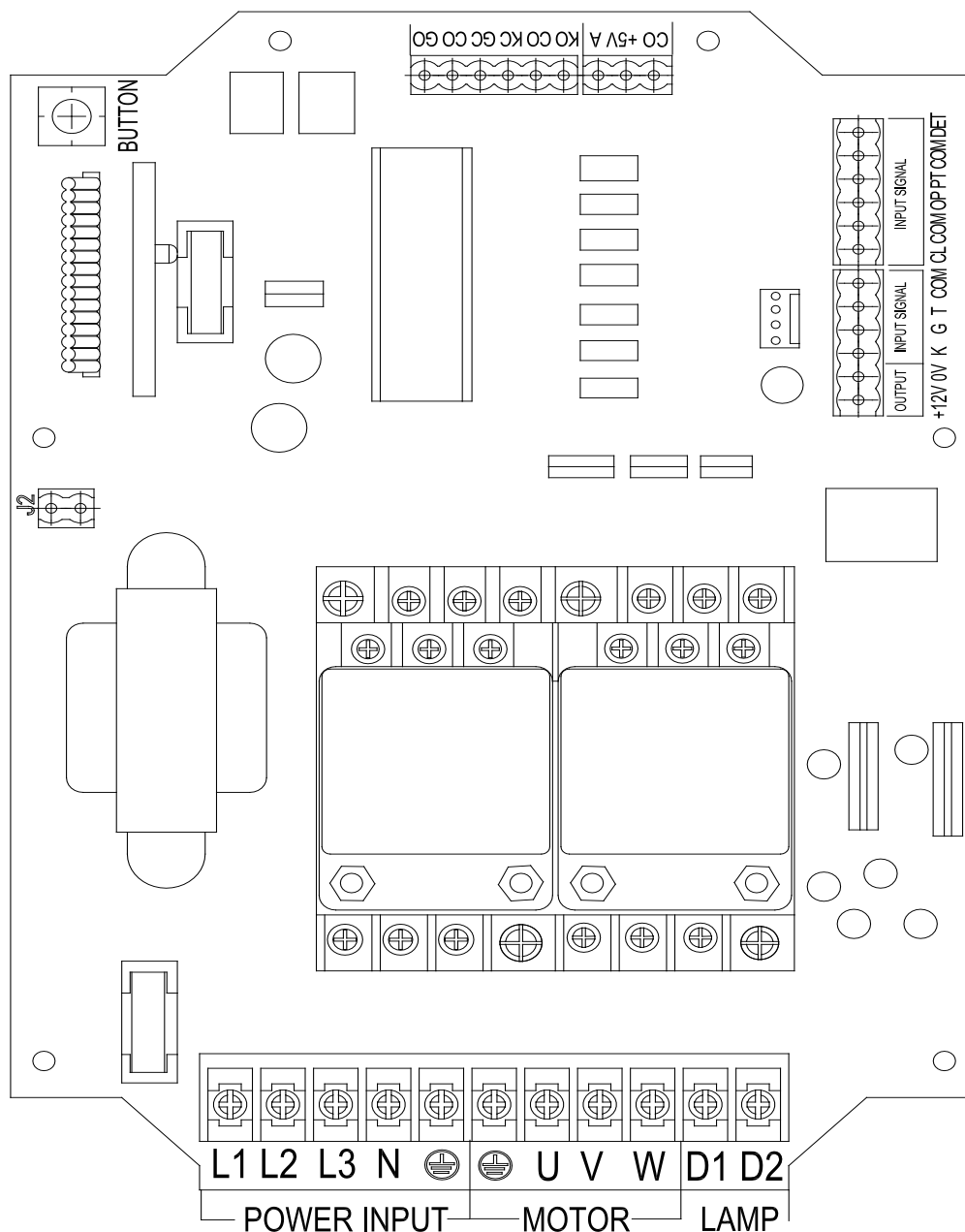


Fig.11 Control board diagram (KG120S, KG200S - AC415V)

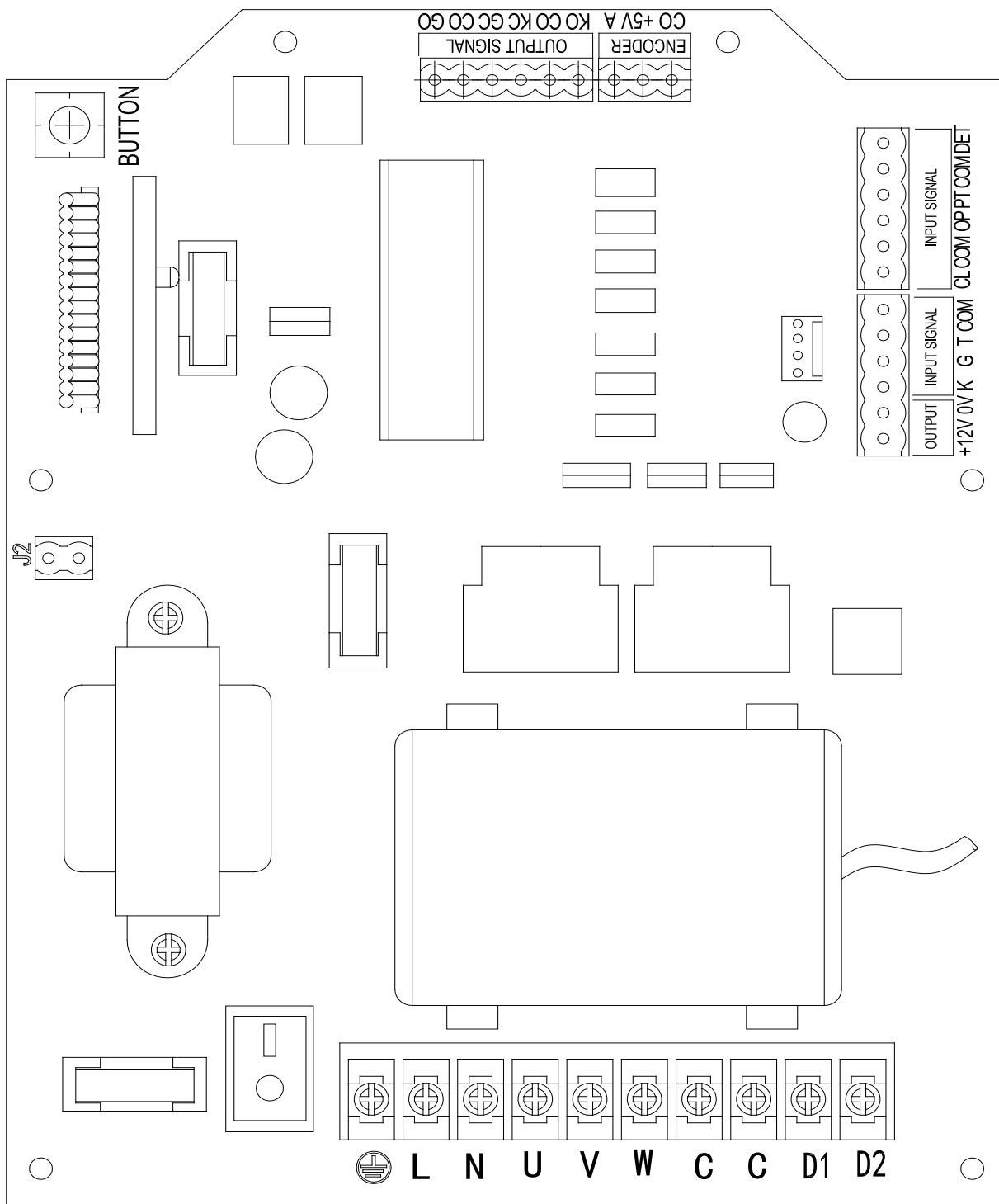


Fig.12 Control board diagram (KG100 - AC240V)



### WARNING

Install the control box in a position where the door is visible. Failure to do so may result in serious injury or death to persons trapped beneath the door. Minimum mounting height is 1.4 meters from floor level.



### WARNING

Before carry out any wiring work, it is essential to disconnect the control unit from the mains supply.  
If the supply cord is damaged, it must be replaced by its service agent in order to avoid a hazard.

## WIRING

### Connecting power

Make sure the power is OFF before wiring.

#### KG120S,KG200S (415V)

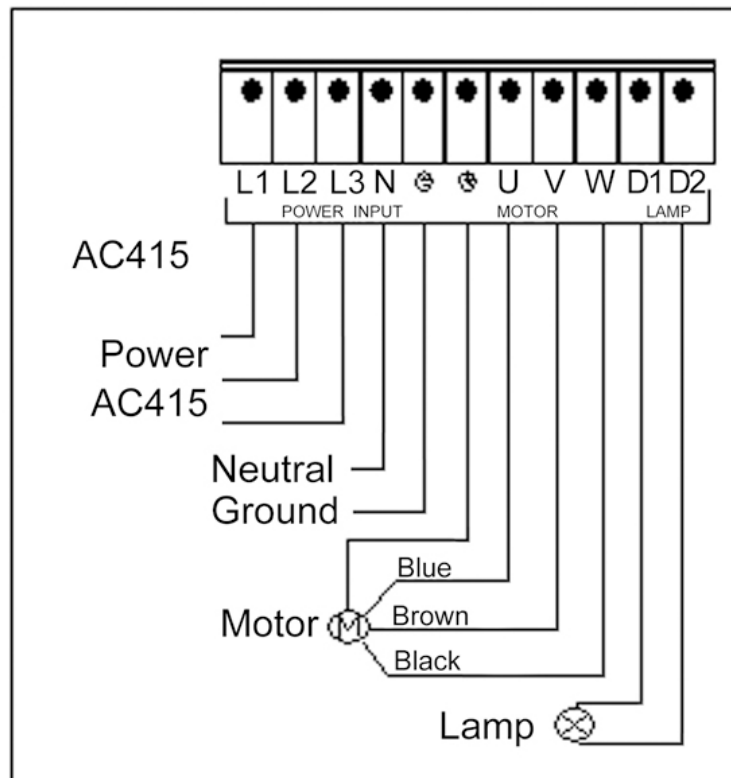
Connect power wires to 'L1', 'L2', 'L3'. Connect neutral wire to 'N', connect ground wire to 'E'.

Turn the power on, if 'LED2' is flashing or indicator LED display 'ERR3:phase sequence', then reverse any two phase wires.

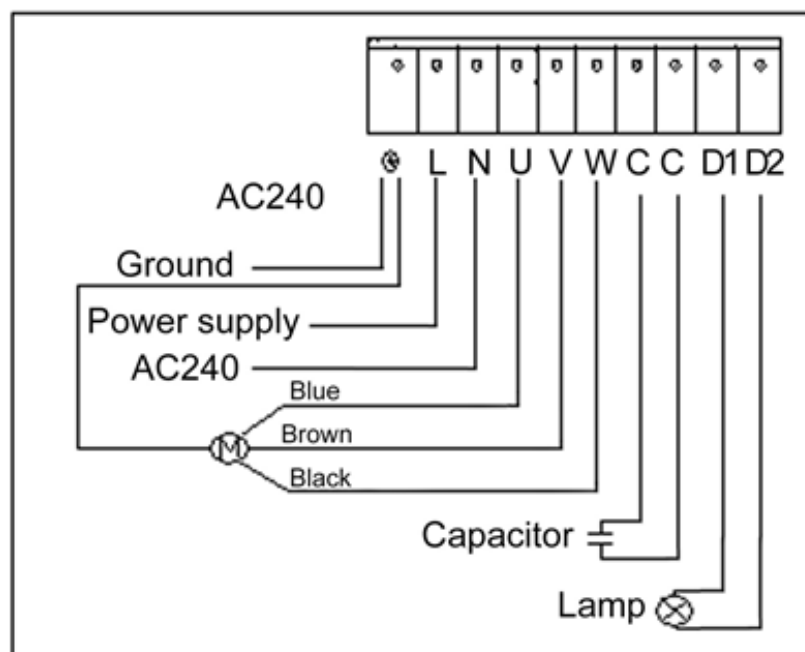
#### KG100 (240V)

Connect power wire to 'L', neutral wire to 'N', ground wire to 'E'.

For KG120S,KG200S  
(AC415V)



For KG100  
(AC240V)



**Motor**

Connect motor wire (blue, brown, black) to 'U', 'V', 'W', ground wire (yellow&green) to 'E'. If door running direction is wrong, please exchange wires 'V' and 'W'.

**Encoder**

Connect encoder to 'CO', '+5V', 'A' (signal wire).

**Infrared photocell**

Connect signal wires of photocell to 'PT' and 'COM', power wires to '+12V' and '0V'.

**Safety edge**

Connect safety edge switch wires to 'PT' and 'COM'.

**Wicket door**

Connect wicket door to 'DET' and 'COM', if connected, the short wire between 'DET' and 'COM' must be removed.

**Alarm lamp**

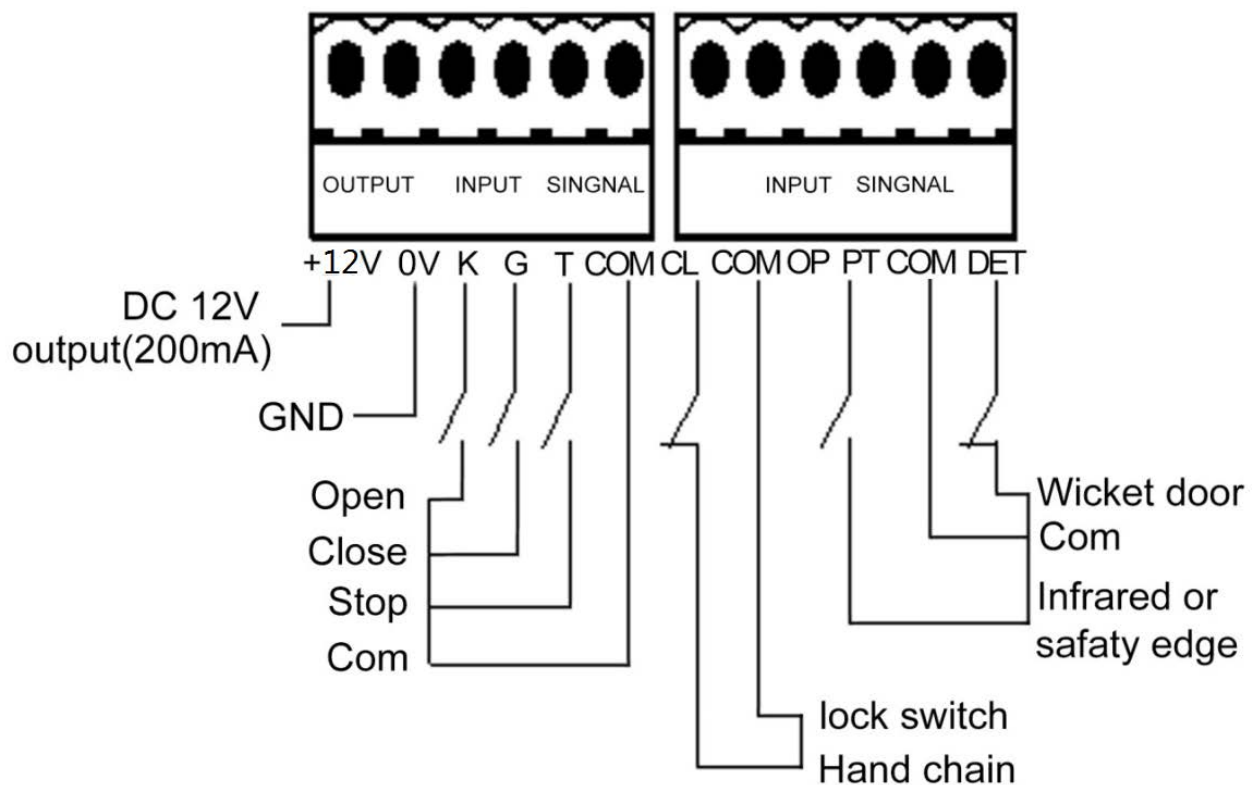
Connect alarm lamp (AC240V) to 'D1' and 'D2'.

**External button switch**

Connect external button switch to 'K', 'G', 'T' and 'COM'. K-open, G-close, T-stop, COM-common wire.

**Hand Chain**

Connect hand chain wire to 'CL' and 'COM'.



## DISPLAYING, SETTING AND PROGRAMMING

### **P1. Running time (10-120 Seconds Adjustable, Default: 60s)**

- Entering Setting Mode: Hold 'STOP' button for 6 seconds.  
*'P1:run time' will be displayed.*
- Press 'OPEN' button to increase running time, or press 'CLOSE' button to decrease time.
- Press 'STOP' button to confirm the setting and exit.

#### **Verify Open Direction:**

If the gate does not move in the desired direction, you will need to reverse the motor operating direction, you can do this by exchanging wires 'V' and 'W'.

### **P2. Infrared Photocell & Safety Edge Switch (Default: N.O.)**

- After completion of setting P1.  
*'P2:Infrared' will be displayed.*
- Press 'OPEN' or 'CLOSE' button to select infrared photocell & safety edge from 2 different designed logic status.  
*'P2:INFRARED N.O.'* – infrared photocell normal status being open.  
*'P2:INFRARED N.C.'* – infrared photocell normal status being close.
- Press 'STOP' button to confirm the setting and exit.

### **P3. Operation**

- After completion of setting P2.  
*'P3:Operation' will be displayed.*
- Press 'OPEN' or 'CLOSE' button to select from latching down or inching down mode.
- Press 'STOP' button to confirm the setting and exit.

#### **Inching Down Mode**

- Open the Door: Single press and release of 'OPEN' button.
- Close the Door: Hold 'CLOSE' button and release the button when it reaches to desired position or the door will stop at the closed limit.

#### **Latching Down Mode**

- Open the Door: Single press and release of 'OPEN' button.
- Close the Door: Single press and release of 'CLOSE' button.

**NOTE: Latching down mode is only possible in conjunction with an Entrapment Protection Device such as an infrared photocell or a safety edge. Failure to do so may result in damage to property or injury or death to person.**

**\*The door Must Only be set to LATCHING DOWN if there is a suitable Entrapment Protection Device installed. Failure to do so can lead to serious injury or death.**

### **P4. AutoCloseTime (Default Setting: 0s. --- Inactive)**

- After completion of P3.  
*'P4:AutoCloseTime' will be displayed.*
- Auto Close Time can be selected from 1 second to 120 seconds.

**NOTE: Auto Close Mode can only work with Latching Down Mode. Auto Close Mode is only possible in conjunction with an Entrapment Protection Device such as an infrared photocell or a safety edge. Failure to do so may result in damage to property or injury or death to person.**

## OPEN AND CLOSED LIMITS SWITCH SETTINGS

### Open and Closed Limits Switch Settings

#### Open Limit Setting

- Hold both 'STOP' and 'OPEN' button for 6 seconds until '1 ->Opening' is flashing on the display.
- Press 'OPEN' button to set open position; release the button until the door has reached the desired position.
- Press 'STOP' button to confirm open limit.

#### Closed Limit Setting

- '2 ->Closing' is indicated on the display.
- Press CLOSE button to set close limit, release the button until the door has reached the desired position.
- Press 'STOP' button to confirm closed limit.

#### NOTE:

- If '=LMT SET OK' is displayed and flash 2 times, the opened & closed limit positions have been set.
- If '=LMT SET ERR' is displayed and flash 2 times, please reset the open & closed limit. Repeat the steps until '=LMT SET OK' is displayed.

## ERROR MESSAGES

**'ERR1: LimitSwitch'** indicates an automatic reset is not carried out or thermal overload protection is active.

**'ERR2: Door In Door'** indicates the wicket door is open.

**'ERR3: Phase Sequence'** indicates wrong phase, please exchange phase wires.

**'ERR4: Encoder Error'** indicates encoder failure, please with power OFF then with power ON.

## ADDING/ERASE REMOTE CONTROLS

### Adding extra remote controls (Learn)

Press 'BUTTON' on the control board about 1 second and release the button, the 'LED' will be on, press any remote control button, the 'LED' will flash 3 times and then turns off. This indicates the learning process is finished.

Up to 25 remote controls can be added.

### To remove all remoter controls

Press and hold 'BUTTON' on the control board, release the button once 'LED' turns ON and turn OFF automatically. This indicates that all the remote controls have been removed.

Additional remote controls can be purchased through your dealer. If you have any problem, please contact the dealer.

The remote control works in three-channel mode, (1-open, 2-close, 3-stop, 4-not used) See Fig.13.

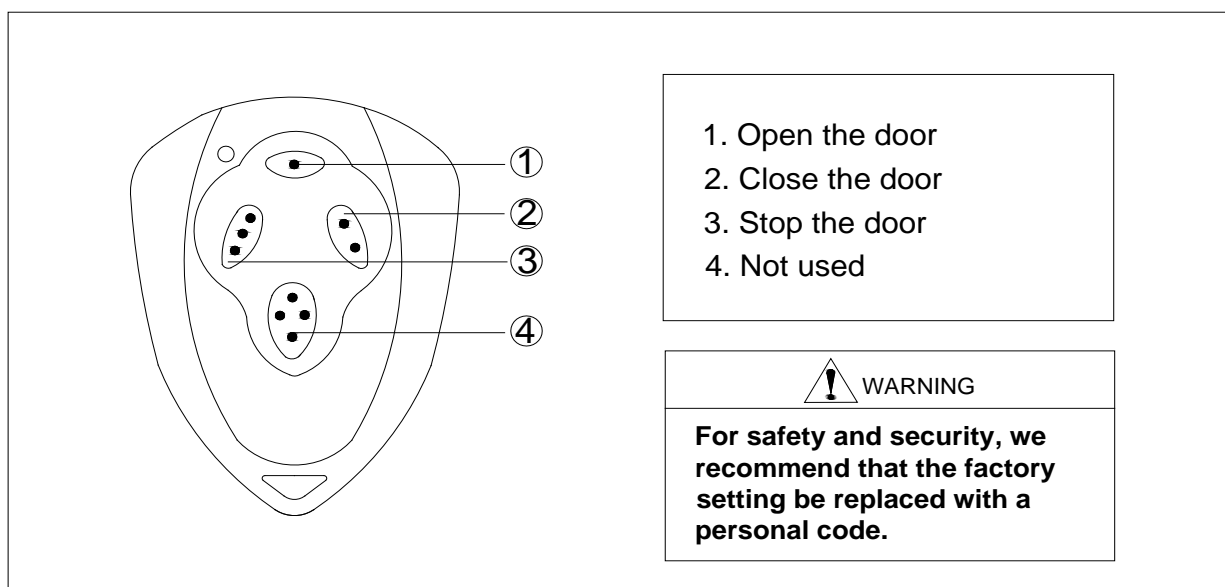


Fig.13

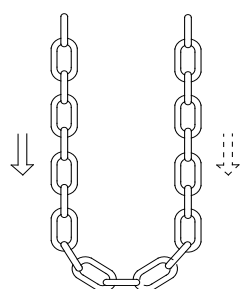
**In case of power failure**, open or close the door manually by pulling the hand chain.

## CAUTION

If 'ERR1:LimitSwitch' indicates on the LCD and the operator does not work by operating the control box button, pull one side of hand chain lightly until a Reset is carried out see Fig.14(1), the 'ERR1:LimitSwitch' disappears, and now the control box can be used.

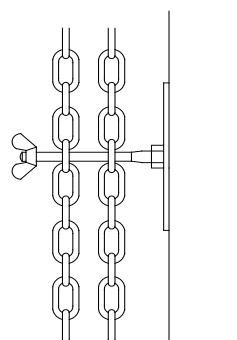
Use the hand chain only when the power failure, NOT for normal use. Do not pull the chain during closing or opening the door, otherwise, serious personal injury or property damage may occur.

It is important to ensure that the chain is not fitted twisted. If the chain is twisted, malfunctions may occur when the hand chain is used. It is essential to screw the hand chain firmly in place as shown in Fig.14(2).



Pull right side or left side of hand chain lightly to carry out an automatic reset.

(1)



Screw the hand chain

(2)

Fig.14



## MAINTENANCE

- Make sure the door is in good working order and that is correctly balanced.
- Have qualified technicians to service this operator.
- Keep operator clean at all times.
- Our company reserves the right to change the design and specification without prior notification.

## TROUBLESHOOTING

Error	Cause for error	Remedies
'ERR3:Phase Sequence' flashes	Phase wires	Check the phase wires or exchange the phase wires.
'ERR2:Door in door' flashes	Wicket door is opened. Check the wire between 'COM' and 'DET'.	Close the wicket door. Connect the wire between 'COM' and 'DET'
The operator stops working suddenly.	Thermal overload protection in motor is active.	Allow the motor to cool down.
'ERR4:Encoder Error' flashes.	Encoder	With power OFF about 3 seconds then with power ON.
The door cannot stop in desired position.	Check the balance spring of door.	Readjust the balance spring, and then reset open and closed limit.
The door cannot be opened or closed.	Check the safety edge or infrared.	Replace the safety edge or infrared photocell.
The operator will not work.	1. Power is OFF. 2. The door is obstructed. 3. The wires become loose. 4. The emergency switch was pressed.	1. Make sure that power is ON. 2. Remove obstructions. 3. Fasten the wires. 4. Rotate the emergency switch to ensure that the button returns to its original position.
If the operator does not work electrically and 'ERR1: LimitSwitch' flashes on the LCD	An automatic reset is not carried out.	Pull the hand chain see Fig.14(1) to carry out an automatic reset. (See <b>Hand chain</b> section)
Remote control does not work.	1. Battery level may be low. 2. Remote control is not suitable for receiver. Wrong programming of remote control coding.	1. Replace the battery inside the remote control. 2. Erase remote controls and then re-program the remote control.

**PACKING LIST**

After receiving the product, you should make an unpack-inspection, in which you should check whether the product was damaged. If you have any problem please contact our sales agent. You should find the following items in our standard packing:

No.	Item	Quantity
1	Door Operator	1
2	31.75mm Output Shaft	1
3	Circlip	1
4	Key(A8X80)	1
5	Key(A6X6X100)	1
6	Bolt (M10×25)	4
7	Spring Washer 10	4
8	Plain Washer 10	4
9	Control Unit(Separate Package)	1
10	5m Motor Cable with Aviation Plug	1
11	5m Control Cable with Aviation Plug	1
12	1.5m Power Cable with Plug Installed (KG100 Only)	1
13	Remote Controller 433.92MHz	2
14	User's Manual	1
15	Australia Standard Mounting Convertor Bracket (Pre-mounted, General Stock Only)	1
16	Socket Head Cap Screw (M10x20) (For Use of Convertor Bracket Only)	4
17	Bolt(M12X30) (For Convertor Bracket)	4
18	Spring Washer 12 (For Convertor Bracket)	4
19	Plain Washer 12 (For Convertor Bracket)	4