

Sliding Gate Operator

User's Manual

Model: DKC800DC

WARNING!

ONLY QUALIFIED AND EXPERIENCED TECHNICIANS SHOULD ATTEMPT INSTALLATION OR SERVICE TO THIS UNIT, OTHERWISE, SERIOUS PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE MAY OCCUR. PLEASE KEEP THESE INSTRUCTIONS FOR FURTHER REFERENCE.

TABLE OF CONTENTS

1. Important Safety Warnings-----	1
2. Technical Parameters-----	2
3. Main Features-----	2
4. Installation and Adjustment-----	2
5. Wiring-----	6
6. Programming-----	7
7. Adding Extra Transmitter-----	7
8. Erase transmitter-----	8
9. Open and Close Limit-----	8
10. Adjust Obstruction Force-----	8
11. Automatic Closing-----	10
12. Setting Auto-close Time of Pedestrian Mode-----	11
13. Final Check-----	12
14. Maintenance-----	12
15. Troubleshooting-----	13

1. Important Safety Warning

PLEASE READ THESE IMPORTANT SAFETY RULES. Failure to comply with the following safety rules may result in serious personal injury and/or property damage.

- ALL installation, repair, and service work must be carried out by a qualified technician.
- DISCONNECT the power cord from the MAINS before making installation, and/or any repairs (eg welding) or removing the covers! Only experienced service personnel can remove the cover of the control system.
- CLOSING OBSTRUCTION FORCE can be set and is adjustable on installation so that the gate(s) reverse when obstruct with PRESSURE. This test must be repeated regular interval and the necessary adjustments made if required.
- DO NOT operate the Gate Opener unless the Gates are in full view and free from objects such as cars and children/people. SERIOUS PERSONAL INJURY and/or property damage can result from failure to follow this warning.
- Children are NOT allowed to play near or operate automatic gates.
- Always keep people and objects away from the gate and its area of travel.
- The gate should be installed on flat, level ground and can be moved and slide freely in both directions along the entire gate length.
- Secure all easily-accessed gate opener controls in order to prevent unauthorized use of the gate.
- In the event of power failure, use an emergency release key to operate the gate manually.
- When using the Auto close mode, a PHOTOELECTRIC BEAM must be correctly fitted and correctly tested for operation at regular intervals. EXTREME CAUTION is recommended when using the Auto close mode. All the safety rules must be followed.

2. Technical Parameters

Tab.1

Model	DKC800DC
Power supply	AC220-240V/50Hz
Motor	DC24V 250W
Gear teeth	19 teeth (24T optional)
Max. speed	18m/min
MAX. Output Torque	18N.m
Gate Weight	≤800kg
Degree of Protection	IP44
Duty Cycle	S2, 20%
Working Temperature	-10℃~+60℃

3. Main Features

- For Sliding Gate weighing up to 800KG.
- DC 24V Operating Voltage for Safety and Convenience.
- Encode Limit Inside, Easy to Set and Adjustment.
- Soft-stop for smooth running.
- Auto-reverse when Obstruction.
- Auto-close Mode Available.
- Pedestrian Mode Available.
- Available for Infrared Photocells, Alarm Lamps. etc.
- Manual key release design for emergency purposes.
- With Backup Battery.

4. Installation and Adjustment

The DKC800DC rack-driven gate operator operates by forcing a drive rack past a drive gear. The entire configuration is shown in Fig.1. The gate operator must be installed on the inside of the gate.

Gate preparation

Make sure the gate is installed properly and slides smoothly before installing the sliding gate operator. The gate must be plumb, level, and move freely.

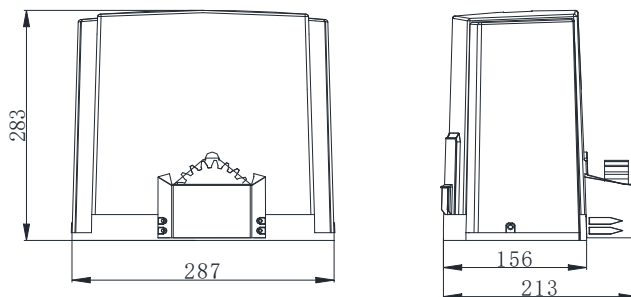


Fig.1 Gate Operator

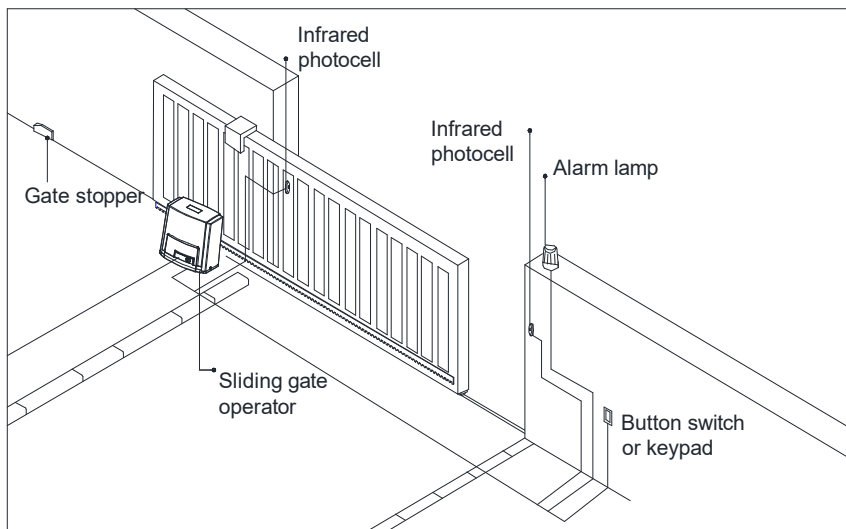


Fig.2

Conduit

In order to protect the wires, use PVC conduit for wires, conduit must be set into the concrete when it is poured. Wires within the conduit shall be located or protected so that no damage can result from contact with any rough or sharp part.

Concrete Pad

The base unit of the gate operator requires a concrete pad in order to maintain proper stability. The concrete pad should be approximately 300mm x 200mm x 200mm deep in order to provide for adequate operation. The pad should be 70mm above finish grade. Be sure to locate the pad so that it will not interfere with the gate.

Bolts

You can use the bolts and nuts that are provided with the operator. These bolts must be set into the concrete when it is poured, or you can use wedge expansion bolts.

Operator Base

Mount the gate operator base to the concrete pad. Verify the operator is leveled properly.

Operator

Mount two pieces of plates and gate operator to the base using screws and washers.

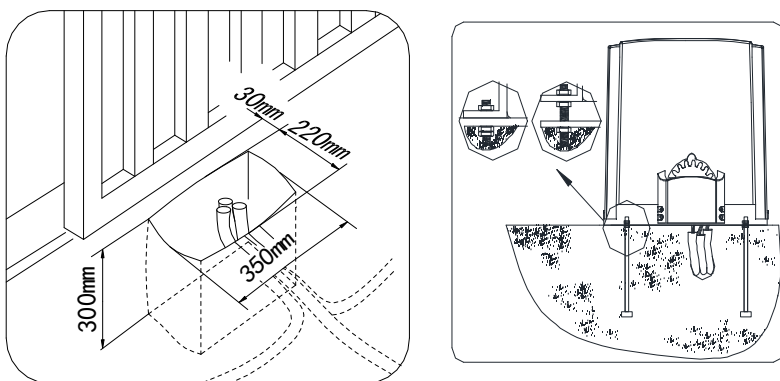


Fig.3

Manual Operation

In case of power failure use manual release key to open or close gate manually, use the release key as follow:

- Fit the supplied key in the hole.
- Turn the key **counterclockwise** to release the clutch.
- Pull the release lever.
- Open and close the gate manually.
- After power-restored close the release lever, then use the manual release key to engage the clutch by turning the key **clockwise** and resume normal operation.

NOTE:

- If the gate bumps the mounting post and cannot be electric opened, move the gate a few inches by hand, thus you can release the gate with the key, open or close the gate manually.

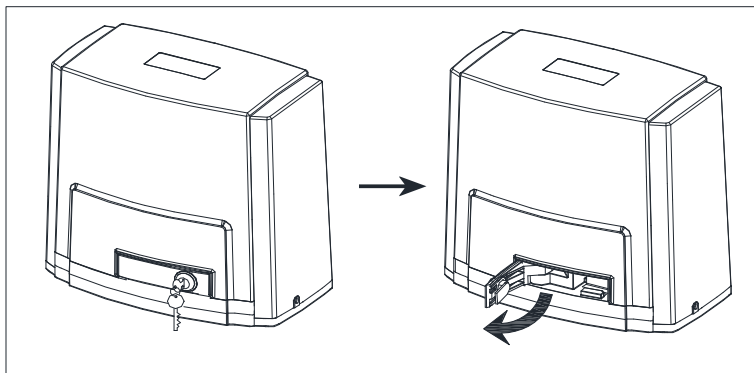


Fig.4

Installing the rack (see Fig.5)

Weld the steel rack

- Manually move the gate to its closing position.
- Place the three threaded pawls (in the same package with rack) on the rack element.
- Lay the first piece of rack on the gear and weld the first threaded pawl on the gate.
- Move the gate manually, checking if the rack is resting on the gear, and weld the second and third pawls.
- The space between rack and gear is about 1mm.
- Bring another rack element near to the previous one. Move the gate manually and weld the three pawls as the first rack, thus proceeding until the gate is fully covered.
- When the rack has been installed, to ensure it meshes correctly with the gear.

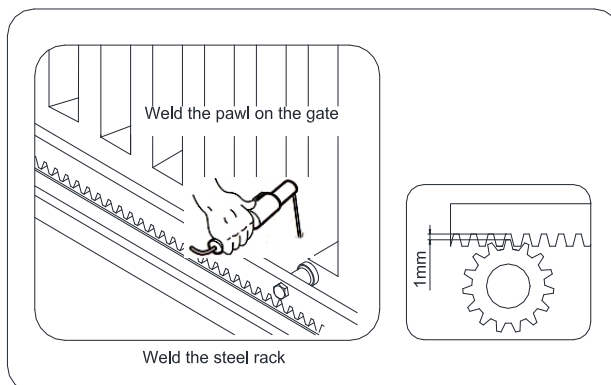


Fig.5

5. Wiring

Make sure the **power** is **OFF** before making any electrical wiring. Control board included in the gate operator.

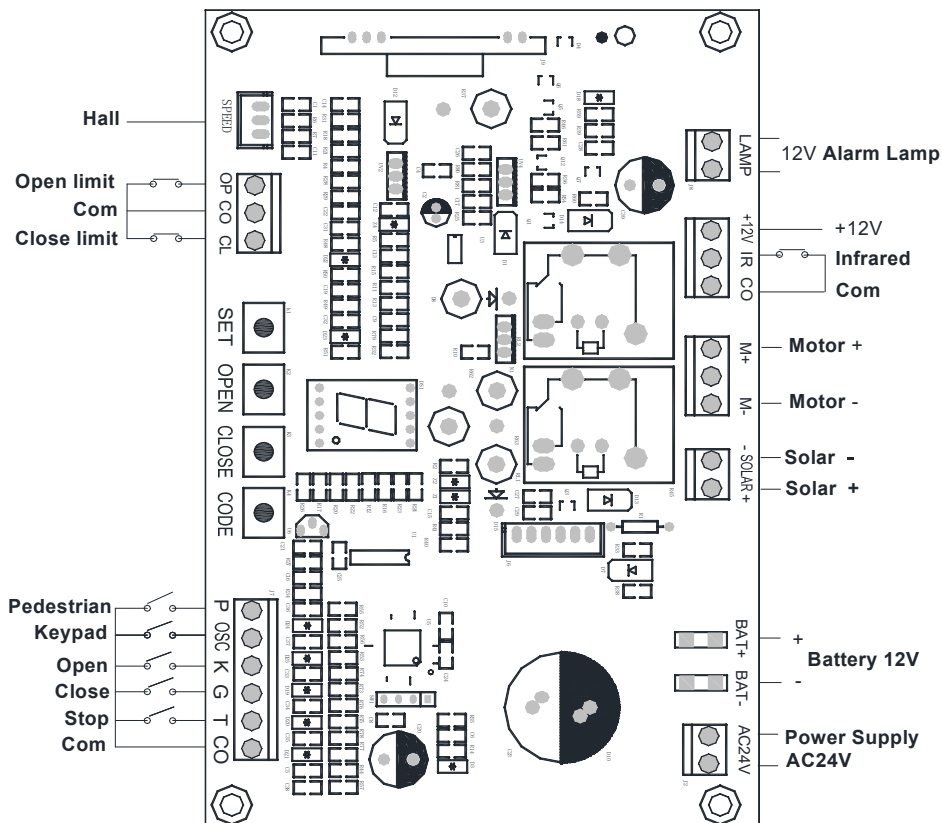


Fig.6 Control board Diagram

6. Programming

With power on, the number from '9' to '1' indicated on the LED display.

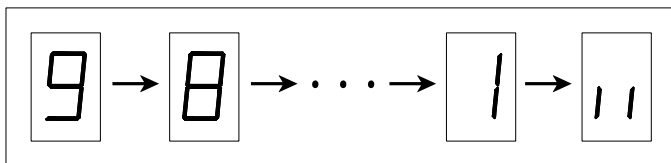
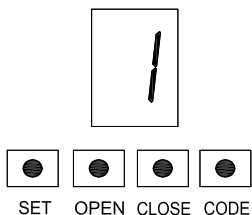


Fig.7



SET button: Mode setting and function confirming

OPEN button: Open limit

CLOSE button: Close limit

CODE button: Transmitter learning and erasing

Transmitter

1. The transmitter works in single-channel mode.
2. It has four buttons, each press of the remote control button, the gate will close, stop, open or stop cycle, button 4-pedestrian mode.

Adding Extra Transmitter (LEARN)

1. Press and hold **CODE**, '.' will be indicated on the LED display.
2. Press the key on transmitter twice.
3. '.' on the LED display will flash then turn off.
4. The learning process is finished.
5. Up to 40 transmitters can be added.

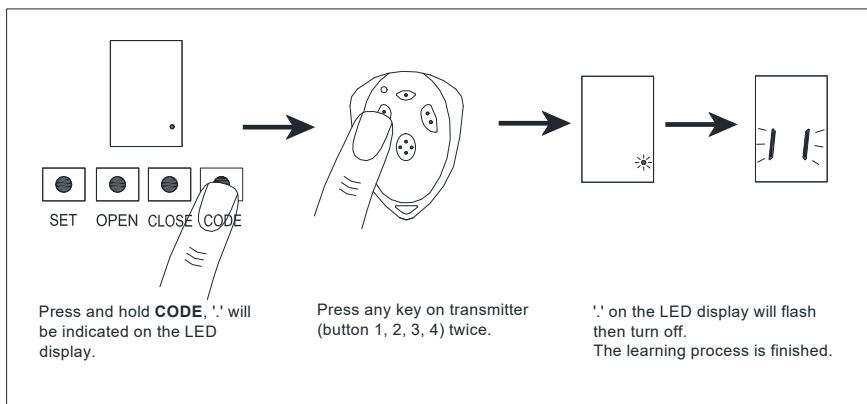


Fig.8

Erase Transmitter

Press and hold the **CODE** button on control board until '·' turns on and then turns off. Release the button until 'II' is indicated on the LED display, this indicates that all the transmitters have been erased completely.

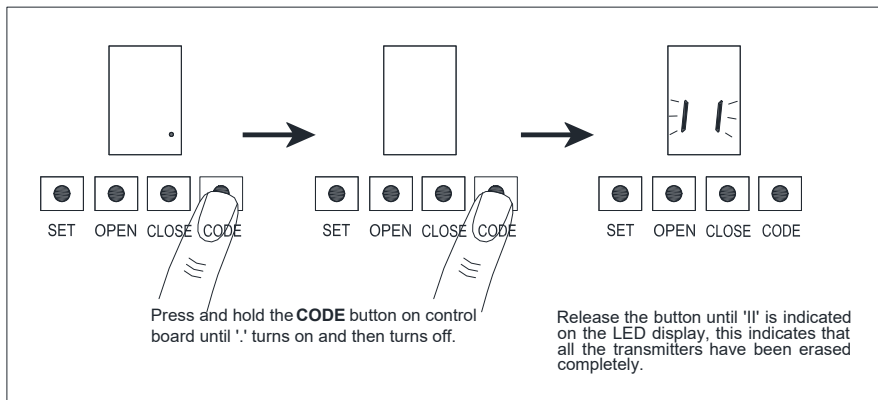


Fig.9

Open and Close Limit

1. Press and hold **SET** (see Fig.6 control board), release the button until '1' indicated on the LED display.
 2. Press and hold **OPEN** to set open position, 'n' is indicated on the LED display, release the button until the gate has reached the desired position. (You also can press **CLOSE** to close the gate, **OPEN** and **CLOSE** can be used to adjust the door position.)
 3. Press the **SET** to confirm the open position, and '2' will be displayed.
 4. Press and hold **CLOSE** to set close position, 'u' is indicated on the LED display, and release the button until the gate has reached the desired position. (You also can press **OPEN** to open the gate, **OPEN** and **CLOSE** can be used to fine adjust the door position.)
 5. Press the **SET** to confirm the close position, 'II' will be displayed.
- See Fig 10.

NOTE:

Please be sure to set open limit earlier than close limit.

If the door runs in wrong direction when pressing open button, please exchange motor wires 'M+' and 'M-'.

After setting, please reset open and close limit again if '-' is displayed on the LED display.

After setting open and close limit, if the door only can be opened, can not be closed, please short infrared terminal 'IR' and 'CO'.

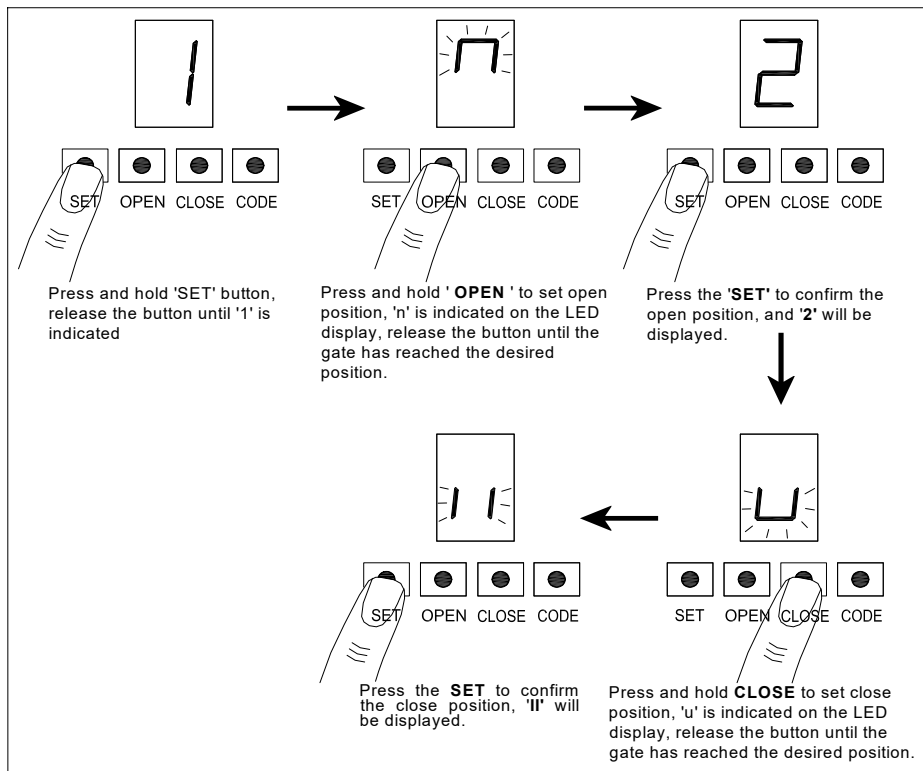


Fig.10

Adjust Obstruction Force(level 0 - 9 adjustable) (Default: 6)

If the gate meets an obstruction during closing, it will stop and reverse about 15-20cm, and it will stop automatically during opening.

1. Press and hold **SET** until '**3**' indicated on the LED display, and then release the **SET**.
2. Level '**6**' (default) will be displayed.
3. Press **OPEN** to increase the obstruction force, the maximum force is level 9. Press **CLOSE** to decrease force.
4. Press **SET** to confirm and '**II**' will be displayed.

See Fig 11.

Note:

- When setting force to level 0, this means the obstruction function will be disabled. A **PHOTOELECTRIC BEAM** must be installed when the obstruction function is disabled. All the safety rules must be followed.

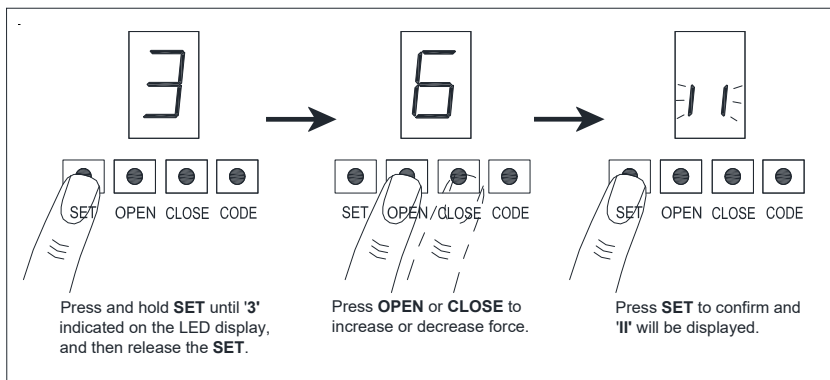


Fig.11

Automatic Closing (0~90 secs adjustable) (Default:0-disabled)

1. Press and hold **OPEN** more than 4 seconds until '—' is indicated on the LED display.
 2. '0' Second (default) will be displayed.
 3. Set timer to '0', the automatic close function will be disabled.
 4. Press **OPEN** to increase the auto close time (1-10 seconds, 2-20 seconds...9-90 seconds), press **CLOSE** to decrease time.
 5. Press **SET** to confirm the setting. '11' will be displayed.
- See Fig 12.

NOTE:

- When using the Auto close mode, a **PHOTOELECTRIC BEAM** must be correctly fitted and correctly tested for operation at regular intervals. **EXTREME CAUTION** is recommended when using the Auto close mode. All the safety rules must be followed.
- Automatic close function is available only when the door is in fully opened position.

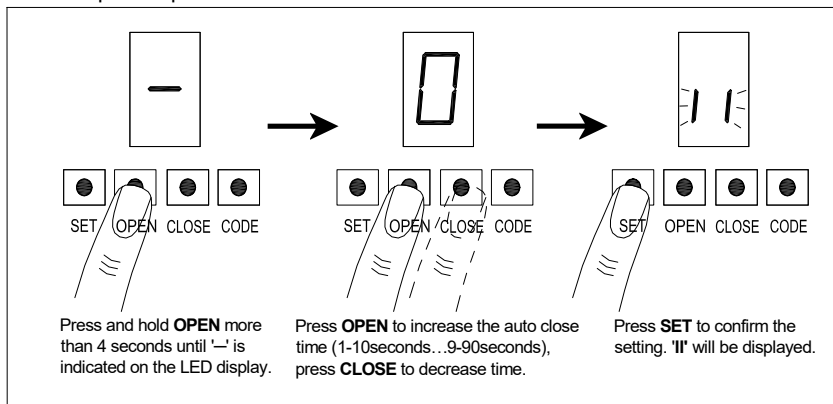


Fig.12

Setting Pedestrian Mode (Default:0-disabled)

1. Press and hold **SET**, release the **SET** when '4' appears on the LED display.
 2. '0' (default) will be displayed.
 3. Press **OPEN** or **CLOSE** to set pedestrian mode.
'0' = pedestrian mode **disabled**
'1' = pedestrian mode **enabled**
 4. Press **SET** to confirm the setting.
- See Fig 13.

NOTE:

- When pedestrian mode is **enabled**, only button1,2,3 can be learned, Button 4 of transmitter is only for pedestrian mode.

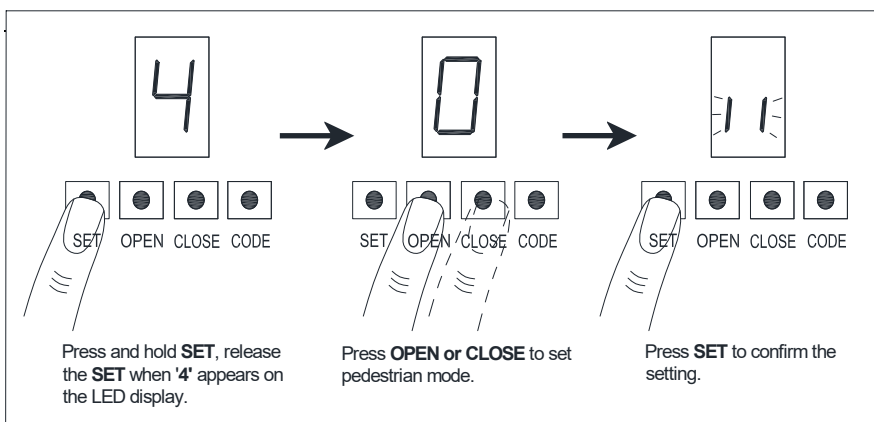


Fig.13

Setting Auto-close Time of Pedestrian Mode(Default:0-disabled)

1. Press and hold **SET**, release the **SET** when the number '5' appears on the LED display.
 2. Number '0' (default) appears on the LED display.
 3. Set timer to '0', the automatic close function of pedestrian mode is disabled.
 4. Press **OPEN** to increase the auto-close time of pedestrian mode (1-5 seconds, 2-10 seconds...9-45 seconds), press **CLOSE** to decrease time.
 5. Press **SET** to confirm the setting.
- See Fig 14.

NOTE:

- When using the Auto close mode a **PHOTOELECTRIC BEAM** must be correctly fitted and correctly tested for operation at regular intervals. **EXTREME CAUTION** is recommended when using the Auto close mode. All the safety rules must be followed.

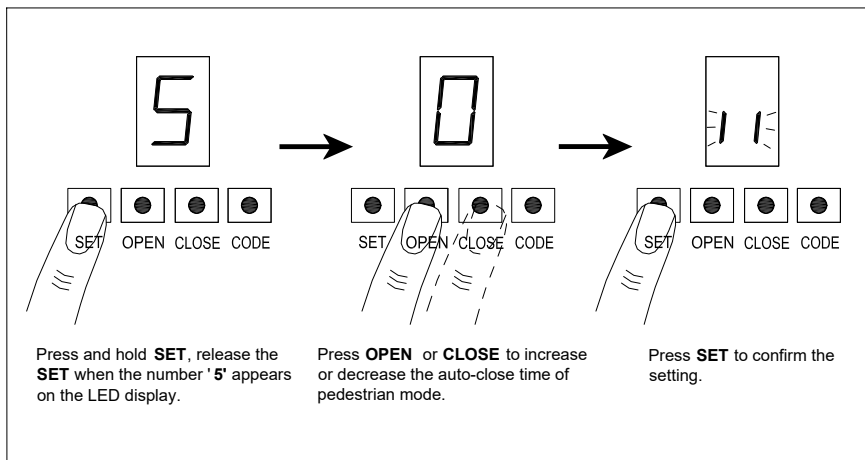


Fig.14

7. Final Check

Check the power supply, grounding and wiring before running the device. Release the gear clutch with the release key to determine whether the gate can be moved manually.

If everything is in good working order, tighten the clutch with the key.

Switch on the power and run the device to ensure that the gate is sliding smoothly.

8. Maintenance

Keep operator clean at all times.

Ensure the operator is well earthed, and correctly terminated.

Regularly grease the wheels and axles to ensure the gate moves smoothly.

9. Troubleshooting

No.	Trouble	Possible causes	Solutions
1	The gate stops immediately after running for a while.	HALL wire looses.	Check the HALL wire.
2	The gate reverses when closing.	Check the obstruction force.	Re-adjust the obstruction force.
3	LED does not light.	1. The fuse is broken. 2. The power wire becomes loose.	1. Replace the fuse. 2. Check the power wire.
4	Remote control does not work.	The indicator light of remote control does not light.	Check the batteries on your remote control.
		Remote control is not suitable for receiver.	Erase remote controls and then re-program the codes in the device. See Adding extra transmitter(learn) section.