SLIDING GATE OPERATOR

DKC900DC

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.

TDA
Door Automation Technology

Total Door Automation (Australia) Pty Ltd
www.totaldoorautomation.com.au
sales@totaldoorautomation.com.au
Technical Support 1800 AUSTDA (1800 287 832)

TABLE OF CONTENTS

Important Safety Warnings **3**

Technical Parameters **4**

Main Features **4**

Installation and Adjustment **4**

Wiring **8**

Programming **10**
Adding Extra Transmitter 10
Erase transmitter 11
Open and Close Limit 11
Adjust Obstruction Force 12
Automatic Closing 13
Pedestrian Mode 14
Setting Auto-close Time of Pedestrian Mode 14
Select Program 15

Final Check **16**

Maintenance **16**

Packing List **16**

Troubleshooting **17**

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	DKC900DC
Power supply	AC240V, 50Hz
Motor	DC24V 250W
Gear teeth	19 teeth
Gate moving speed	10m/min
Output Torque	18N.m
Maxi. Gate Weight	≤800kg
Limit Switch	Encoder limit switch
Battery	12V, 9Ah
Standard operation with back up battery	8 times
Degree of Protection	IP44
Duty Cycle	S2, 35%

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 DKC900DC 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.

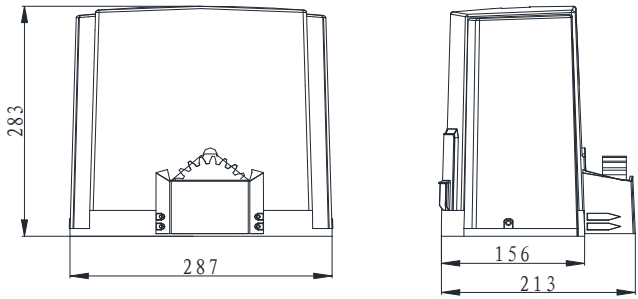


Fig.1 Gate Operator

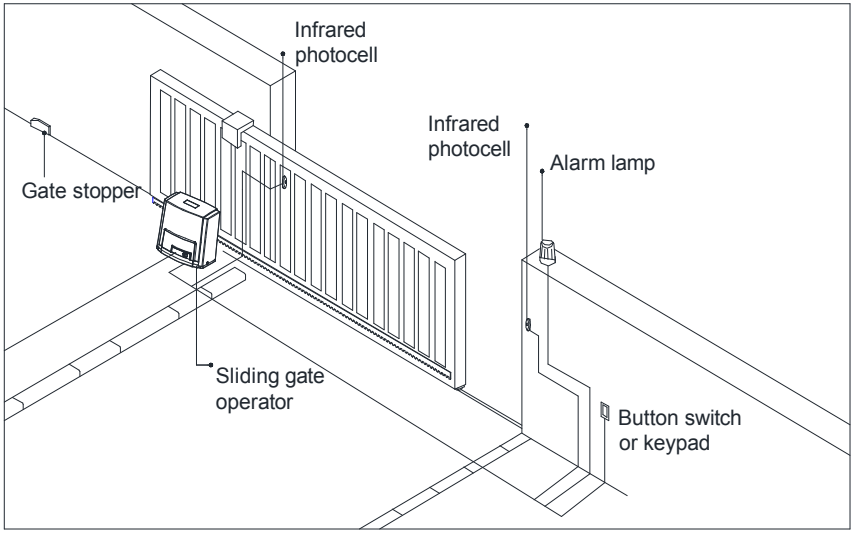


Fig.2

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.

Screws
You can use the screws and washers that are provided with the operator. 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.

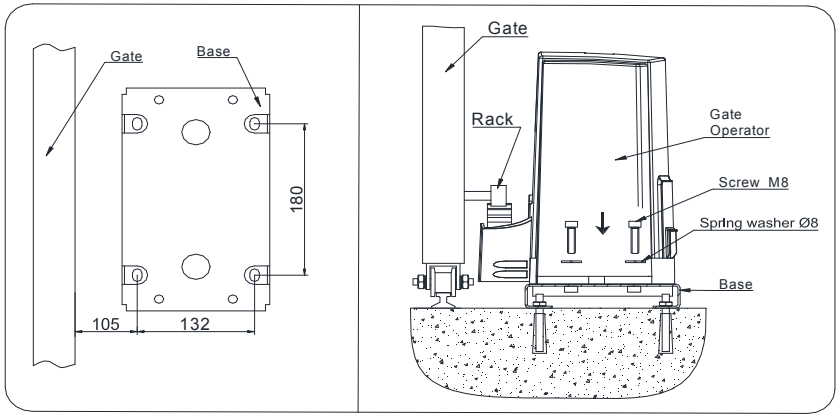


Fig.3

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.

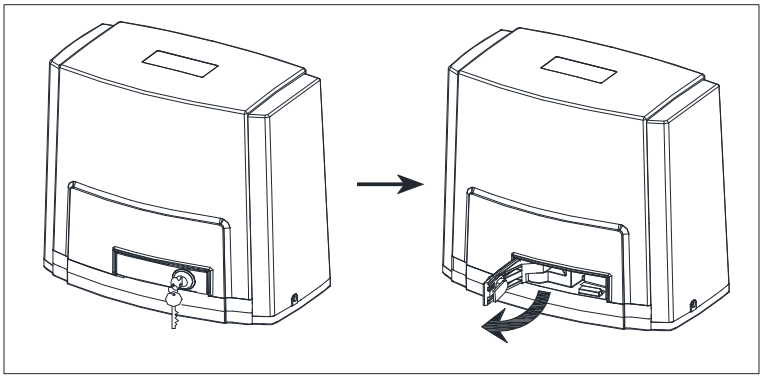


Fig.4

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.

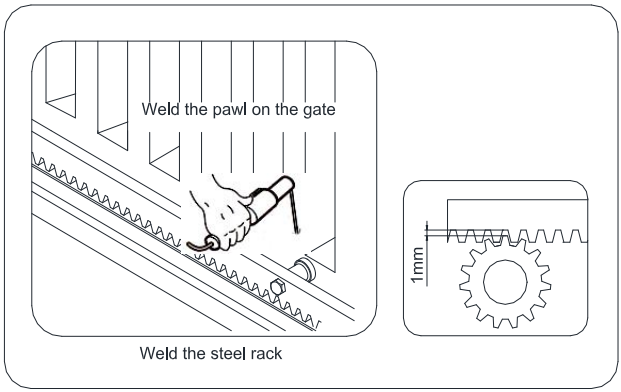


Fig.5

5. Wiring

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

External Transformer: (optional)

You can select the external transformer according to your order, connect the transformer to control board Power + (+24V) and Power – (0V). See Fig.6

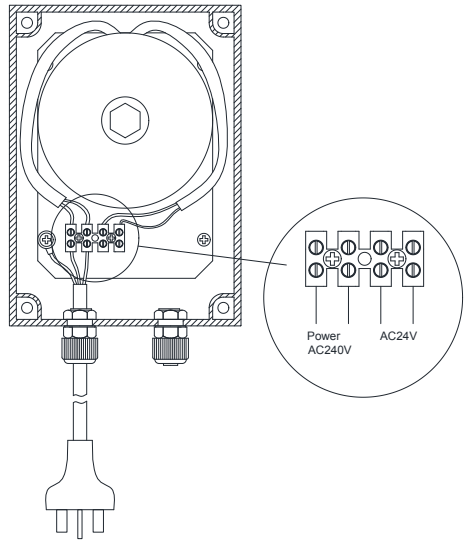


Fig.6 Separate transformer to suit DC gate operator

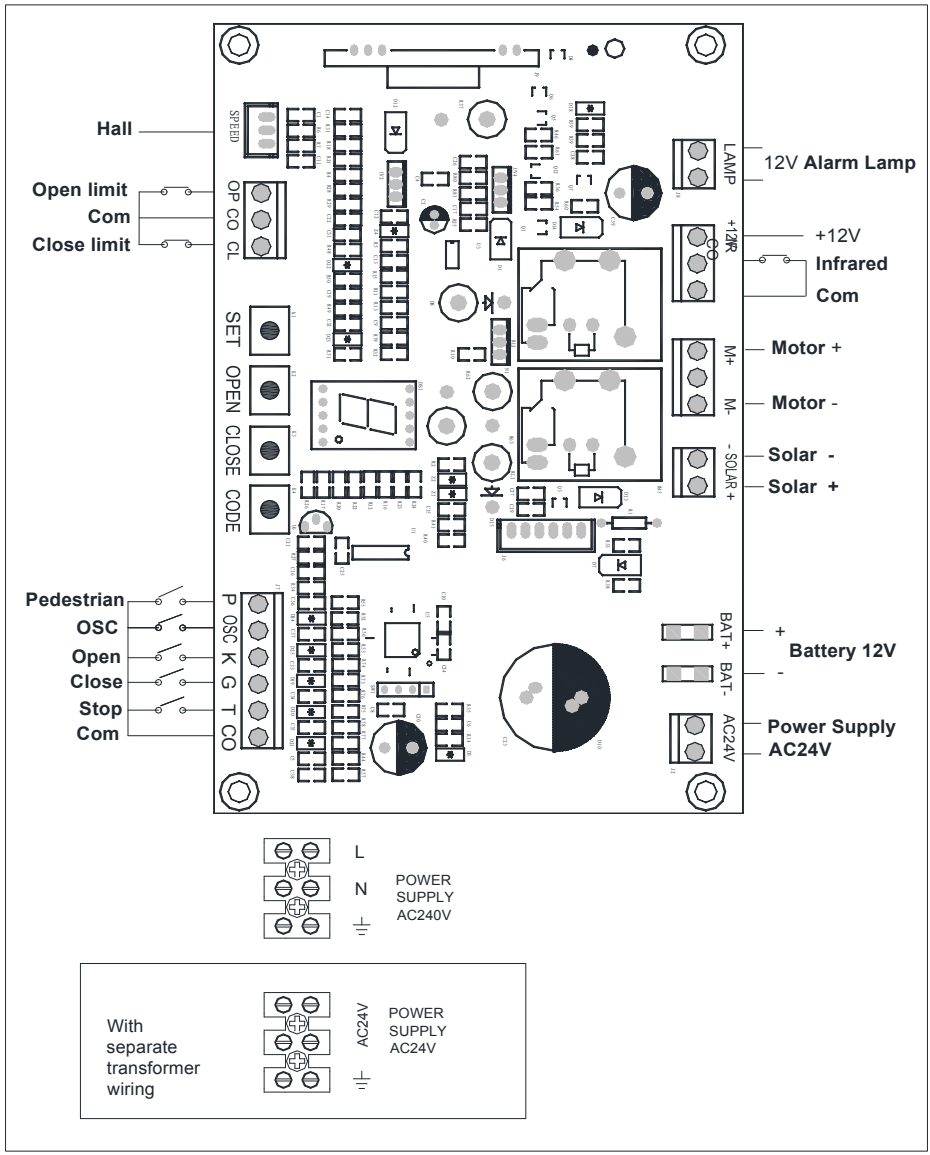


Fig.7 Control board Diagram

6. Programming

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

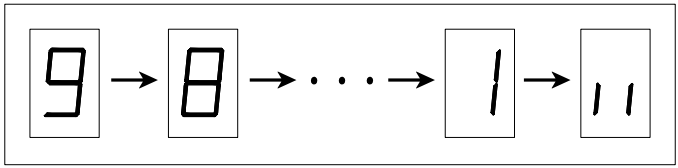
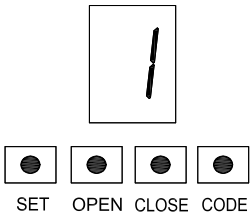


Fig.8



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.

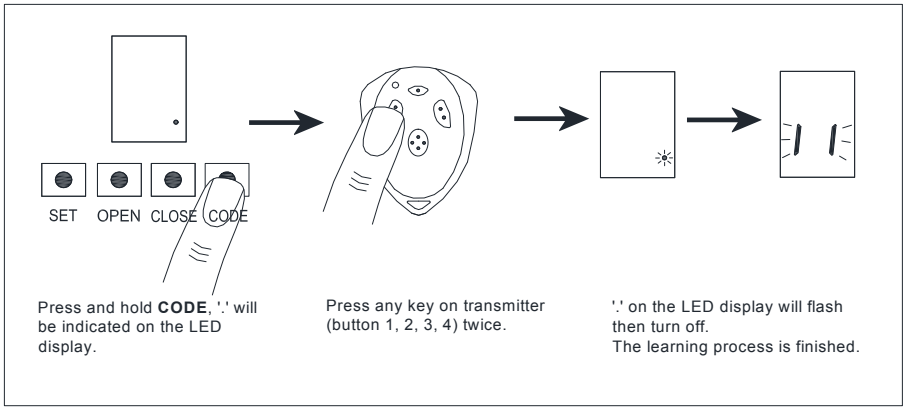


Fig.9 Adding Extra Transmitter

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.

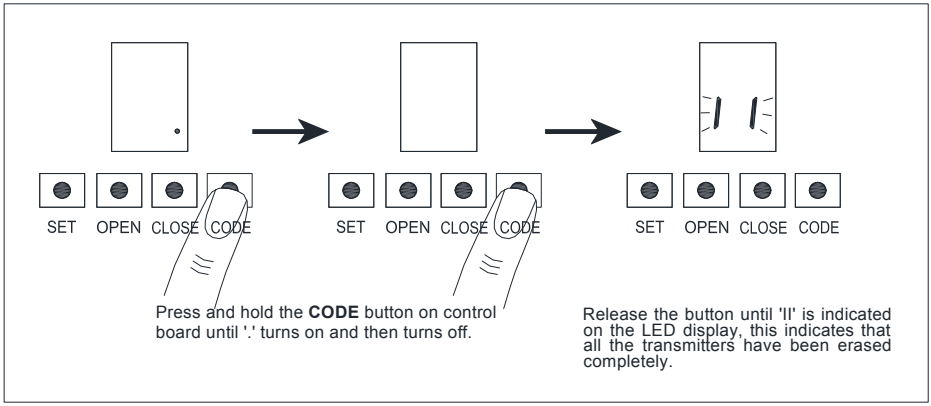


Fig.10 Erase Transmitter

Open and Close Limit

1. Press and hold **SET** (see Fig.7 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 11.

NOTE:

- Short circuit the infrared terminal block (see Fig.7 terminal 4 and 5) if the gate only runs in open direction.

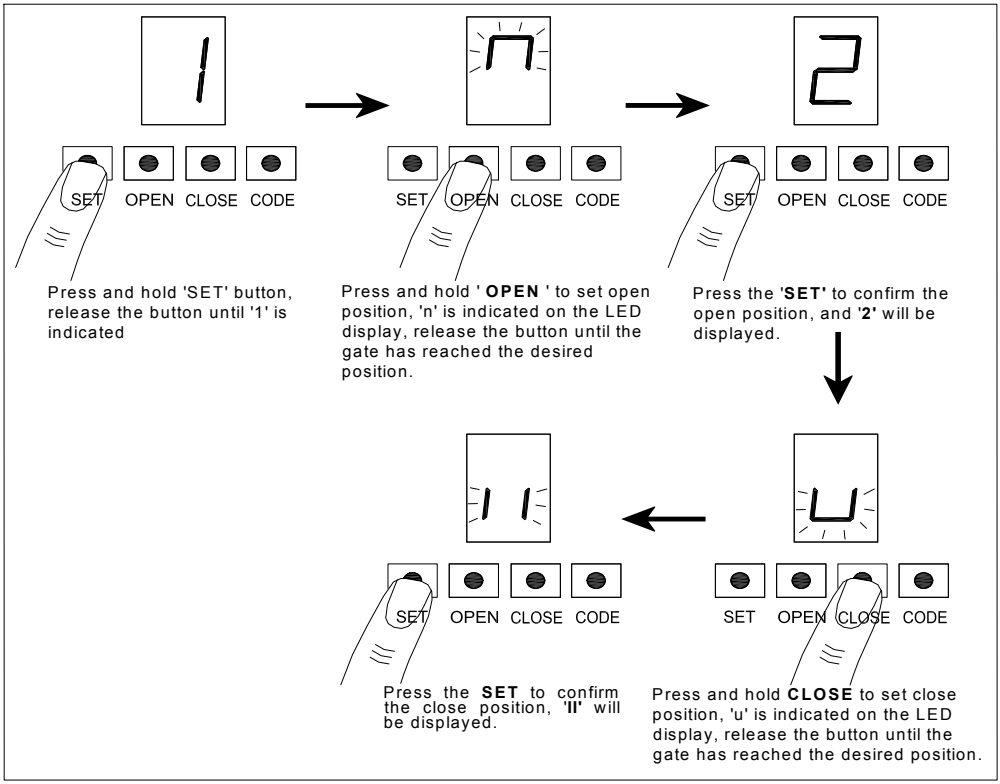


Fig.11 Open and Close Limit

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

If the gate meets an obstruction during closing, it will stop and reverse.

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 12.

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.

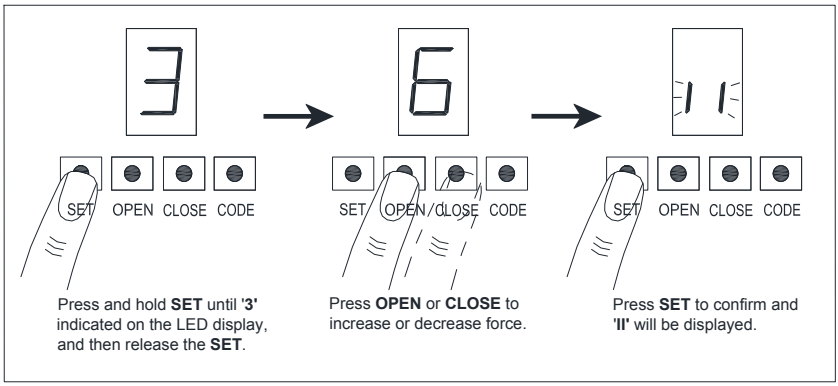


Fig.12-Adjust Obstruction Force

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. 'II' will be displayed.

See Fig 13.

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.

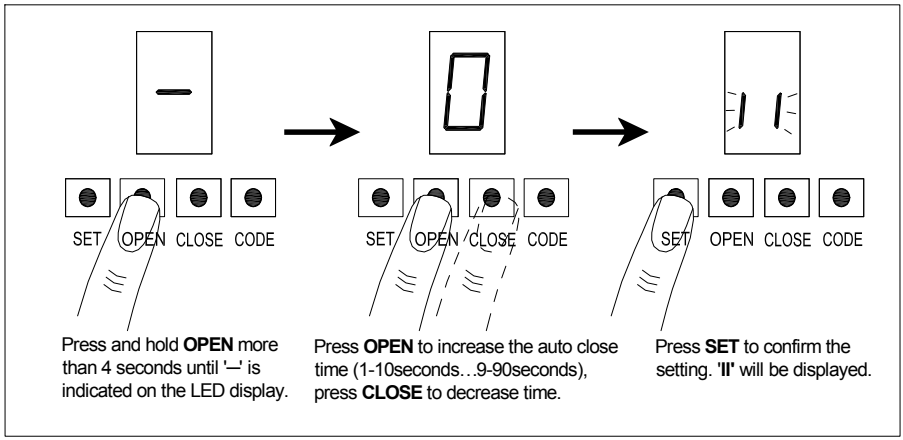


Fig.13 Automatic Closing

Pedestrian Mode (Default:0-diabled)

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 the pedestrian mode.
   `**0**' = pedestrian mode **disabled**
   `**1**' = pedestrian mode **enabled**, pedestrian width **100cm**.
4. Press **SET** to confirm the setting.
5. External Pedestrian Mode Key can be connected to control the pedestrian mode.

See Fig 14.

NOTE:

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

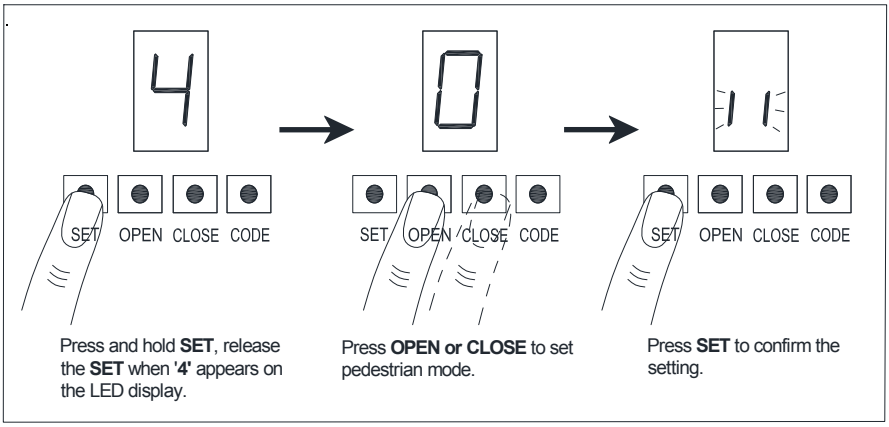


Fig.14-Pedestrian Mode

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 15.

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.

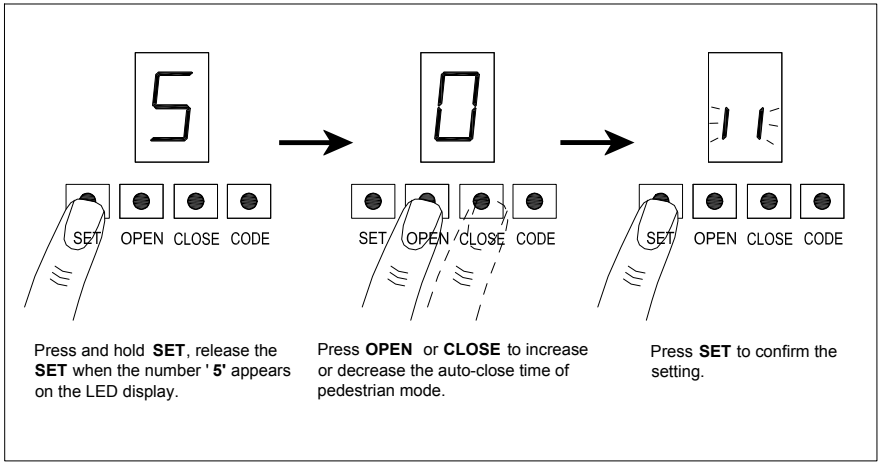


Fig.15- Setting Auto-close Time of Pedestrian Mode

Select Program (Default:1-DKC900DC)

1. Press and hold **SET**, release the **SET** when '**6**' appears on the LED display.
2. '**0**' (default) will be displayed.
3. Press **OPEN** or **CLOSE** to set the select program.
   '**1**' = program for DKC900DC gate operator
   '**0**' = program for DKC301DC gate operator
4. Press **SET** to confirm the setting.

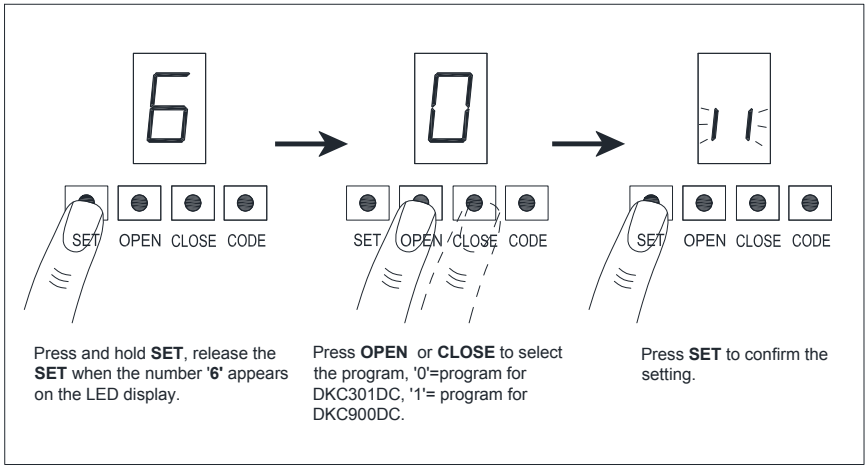


Fig.16-Select Program

7. Final Check

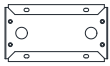
Check the power supply, grounding and wiring before running the device.
Release the gear clutch with the release key to determine whether the gate can be moved manually.
If everything is in good working order, tighten the clutch with the key.
Switch on the power and run the device to ensure that the 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. Packing List

After receiving the product, you should make an unpack-inspection, in which you should check whether the product was damaged. You should find the following items in our standard packing:

No.	Item	Diagram or remark	Quantity
1	Nut M8		4 pcs
2	Screw (M8X50) and washer		4 set
3	Operator base		1 pcs
5	Transmitter YKF06		2 pcs
6	Release key		2 pcs
7	Back up battery	Built-in	1 set
8	Separate transformer	Optional according to your order	1 pcs
9	User's manual		1 pcs

10. 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.	1. Check if the gear rack is positioned properly. 2. Check the obstruction force.	1. Re-adjust the gear rack, and then Re-set open and close limit. 2. 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 battery 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.

B0065