Rolling Door Opener

- Automatic Obstruct
- Photo Electric Beam
- Rolling Code System
- Anti-Theft System
- Auto Close Door

Installation Instruction and RDO Owners Manual
SAFETY INSTRUCTIONS, PLEASE READ CAREFULLY

- Never let children operate or play with the doors controls.
- Keep the remoter control away from children.
- Always keep the moving door in sight and away from people and objects until it is completely closed.
- NO ONE SHOULD CROSS A MOVING DOOR.
- Do not disengage the door opener to manual operation with children/persons or any other object including motor vehicles within the doorway.
- The garage door must be well balanced. Sticking or binding doors can falsely trigger the obstruction sensing of the unit.
- All maintenance should be carried out by suitably qualified personnel.
- Test the door opener monthly. The garage door MUST reserve on contact with a 5 to 10cm high object on the floor. The amount of force the door should encounter is adjustable. Failure to adjust the opener properly may cause severe injury or death.
- The opener has a patented electronic obstruction system that provides safe and reliable operation. It is however a legal requirement in some countries to also install a Photo-electric sensor across the door way, please check this requirement with your local distributor.
Your Automatic Rolling Door Opener has many features which you will appreciate. The components and Materials used in this control board are of the latest Technology and highest Quality. Below are listed some of the features.

**OPERATION**

To operate the door simply press the hand held transmitter or the wall mounted switch for two seconds and the door will automatically open or close. The door can be stopped during on opening or closing cycle by pressing the wall switch or handheld transmitter. The next actuation will move the door in the opposite direction.

**SAFETY OBSTRUCTION REVERSE**

While the door is doing a closing cycle and it should hit an obstacle or be restricted in some manner, it will automatically reverse. The amount of force the door should encounter before reversing is adjustable. The door also if restricted whilst opening will stop. The Safety Obstruction Forces should be checked at least once a month.

**AUTOMATIC COURTESY LIGHT**

TheCourtesy Light on the Opener comes on automatically whenever the door is activated to do an opening or closing cycle. The light will stay on for approximately three minutes then turns off automatically. The Light can also be switched on and off without operating the door. This is done by pressing the Light button on the Wall Switch or the hand held transmitter. The Light turns off after three minutes.

**SECURITY CODE STORE**

The Opener uses state of the Microchip® technology in storing your Rolling Code Transmitter Security Code. Up to 20 different transmitters can be stored in the non-volatile memory device. To store any code simply press the LEARN button on the Opener and press the transmitter button twice. The codes can be deleted at any time. Security is enhanced because the fixed and encrypted sections combined increase the number of combinations to $7.38 \times 10^{19}$. There are no Dip switch on the Opener which can be visually seen and copied.

**OPEN AND CLOSE DRIVE BUTTON**

Another features developed to aid in the installation of the Opener are the O/S/C Button. These buttons are used to help set the open and close limit positions. The quicker setting time and a more precise limit position can be achieved using this system.

**AUTO CLOSE MODE**

The Opener can be programmed to automatically close approximately thirty seconds after the door has opened. A Photoelectric Beam must be installed if this mode is selected.

**AUTO RUN TIME**

If the Motor is left running in the Opener for any reason the Auto Run Time will turn the motor off after thirty seconds.

**PHOTO ELECTRIC BEAM**

The Opener has an input for a Photo Electric Beam to be connected for extra safety protection.
CONTROL DEFINITIONS

Diagram showing various components and labels numbered from 1 to 27.
CONTROL DEFINATIONS

1. **O/S/C Button**, is used during installation to open, close and stop commands to the opener.

2. **EXT. PUSH BUTTON**, is for connecting the Wall Switch, with the same function as the O/S/C Button.

3. **EXT. ALARM**, is for connecting the extra alarm siren, accomplish the anti-theft function via the FD input at the CONTROL TERMINAL.

4. **+24V, PB and GND**, is for connecting the 2-wire or 3-wire Photo Electric Beam.

5. **PUSH and GND**, is for connecting the PUSH BUTTON, with the same function as the O/S/C button.

6. **FD and GND**, is for connecting the anti-theft sensor, broken at the full close position will activated the EXT. ALARM output.

7. **LEARN LED**, to indicate the learn/working status of the transmitter(s).

8. **LEARN BUTTON**, is used for storing or erasing your selected security code from your transmitter(s) into the Openers memory device.

9. **RF POWER**, remove the jumper will shut off the power of RF RECEIVER board.

10. **RF RECEIVER Board**, 433.92MHz AM FSK mode receiver.

11. **ANTENNA**, do not cut antenna wire or coil up.

12. **UP FORCE Adjustment**, is for adjusting the open obstruction force. Turning the shaft in clockwise direction increases the force that is required to restrict the door before it stops when opening. Turning anticlockwise will decrease the force that is required to stop the door.

13. **DOWN FORCE Adjustment**, is for adjusting the close safety obstruction force. Turning the shaft in a clockwise direction increases the force that is required to restrict the door before it reverses when closing. Turning anticlockwise will decrease the force that is required to reverse the door.

14. **EXTERNAL POWER**, reserved for connecting the Battery and another control system.

15. **AC POWER**, is for connecting the main power supply, AC 24V, 50-60Hz.

16. **CAR FUSE**, the main fuse with the rating 10A/24V.

17. **LAMP**, the courtesy light, with the rating 8W/24V.

18. **TO DC MOTOR**, is for connecting the opener, the DC motor output.

19. **OPEN/CLOSE limits Connector**, Pin 4-5, the open limit input, and pin 5-6, the close limit input, Normal Contact and activate while the switch opens.

20. **BEE ENABLE JUMPER**, remove the jumper to disable the beeper on board.

21. **AUTOCLOSE JUMPER**, connect the jumper; the opener will automatically close approximately thirty seconds after the door has opened.

22. **OPEN/CLOSE LIMITS**, the open/close limit, Normal Contact and activate while the switch opens.

23. **Opener Body**, the open/close limit, Normal Contact and activate while the switch opens.

24. **OPEN LIMIT CAM**, the open limit, Normal Contact and activate while the switch opens.

25. **CLOSE LIMIT CAM**, the close limit, Normal Contact and activate while the switch opens.

26. **Release Handle**, the open/close limit, Normal Contact and activate while the switch opens.

27. **ON PANEL BUTTON**, with the same function as the O/S/C button.
PACKAGE LIST

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SUBQUENCE OF INSTALLATION

- CURTAIN
- BALANCE BARS
- TRANSMITTER
- POWER CORD
- U BOLT
- SADDLE
- BRACKET
- PLATE
- SPRING WASHER
- NUT
SIDE ROOM REQUIREMENTS

Fig 1 shows the minimum side room that is required. The distance between the edge of the door curtain and the inside of the bracket is 85mm, and the distance between the edge of the door and the outside of bracket is 135mm.

Fig 2 shows the recommended side room. The distance between the edge of the door curtain and the inside of the bracket should be 110mm minimum, and the distance between the edge of the door and the outside of bracket is 160mm minimum.

1. CHECK OPERATION OF DOOR
BEFORE BEGINNING THE INSTALLATION OF THE EASY ROLLER AUTOMATIC OPENER CHECK THE OPERATION OF THE DOOR.

The door must be well balanced and be in a reasonable operating condition. You should be able to lift the door smoothly and with little resistance. It should stay open around 900mm to 1200mm above the floor. The door should not stick or bind in the guide tracks.

2. FIXING THE DOOR WEIGHT BARS
Move the door manually to the mid open position. Place the weight bars equally apart on the bottom rail of the door and secure them with the fasteners provided (see Fig 3). Check the operation of the door again. If the door feels heavy it may require extra tension to be added to the door springs. Refer to the door Installation manual from manufacturer on how to tension the door.

3. LEFT OR RIGHT HAND INSTALLATION
The Easy Roller Automatic Opener can installed on the left or right hand side of the door (when looking out from the inside of the garage). If your opener is to be installed on the RIGHT HAND side of the door then go on to step 4. If the LEFT HAND side is your selected side for installation the next step is to move the motor wire connectors. The connectors have to be removed and reconnected to the LEFT side according to the wire colour (see Fig 4).

If you wish to install the RIGHT HAND side of the door there connect the connectors to RIGHT side (see Fig 5).
4. FIXING DRIVE UNIT TO DOOR

The drive unit can be fixed to the Roll Up Garage Door in a variety of ways. Below we will describe one method of fixing. Make sure there is enough room (135mm from end of door shaft to the wall) to slide drive unit onto shaft.

NOTE: THE INSTRUCTION FOR FIXING OF THE DRIVE UNIT TO THE DOOR IS FOR RIGHT HAND INSTALLATION.

FIXING DRIVE UNIT TO DOOR (See Fig 6, 7 and 8).
(a) Check that the door shaft U bolt is securely tightened on the left hand side of the door.
(b) Raise the door and tie a rope around the centre to secure the roll.
(c) Support the right hand end of the door with a suitable prop and soft padding to protect door surface.

WARNING: DO NOT ALLOW CHILDREN/PERSONS AROUND THE DOOR WHEN PROPPED. SERIOUS PERSONAL INJURE AND/OR PROPERTY DAMAGE CAN RESULT FROM FAILURE TO FOLLOW THIS WARNING.
(d) Check that step (a) was completed. Careful loosen and remove the right hand door shaft U bolt.
(e) Make sure that the door supporting prop is secure. While the door is supported remove the right hand door mounting bracket from wall.
(f) Remove the Drive Unit from packaging. Try and rotate the drive gear by pushing on the fork. If the gear does not rotate the manual mode has to be selected. To select pull on the string handle downwards, then release slowly. The drive gear should now rotate.
(g) Slide Drive Unit over the door axle making sure that the fork extends into and over one of the spokes of the door drum wheel.
(h) Refit the door mounting bracket to the wall. In some cases the bracket may have to be repositioned. Re-tighten the door shaft U bolt.
(i) Straighten the Drive Unit and position as per Fig 8. Tighten the two locking bolts firmly to secure Drive Unit.
(j) Check the manual operation of the door by raising and lowering the door. The door should run smoothly and not catch on any part of the Drive Unit.
5. SETTING LIMIT SWITCH

5.1 SETTING LIMITS FOR RIGHT HAND INSTALLATION

(a) With Drive Unit in manual mode (disengage, see Fig.14), move the door up by hand to desired position.
(b) Remove the Switch Cover (see Fig.9). Rotate by hand in an clockwise direction the UP LIMIT CAM until the cam clicks the open limit switch.
(c) Move the door down by hand to the desired closed position.
(d) Rotate by hand in anticlockwise direction the DOWN LIMIT CAM (see Fig11) until the cam clicks the close limit switch.
(e) Connect power lead from the Drive Unit into a general purpose power outlet installed by a licensed qualified electrical contractor. Turn the Power On.
(f) Re-engage the drive gear by push up the handle and then releasing slowly (see Fig 14).

OPEN LIMIT ADJUSTMENT

(g) Press the O/S/C Button on the board. The door should start opening. If the door stopped and the desired limit position has been reached then the limit adjustment is complete. If the door has not reached, or has gone past the desired position, you have to adjust the UP LIMIT CAM. Adjust the cam clockwise to open the door more. To open the door less adjust the cam anticlockwise.

CLOSE LIMIT ADJUSTMENT

(h) Press the O/S/C Button on the board again,, The door should start closing. If the door stopped and the desired limit position has been reached then the close limit switch adjustment is complete. If the door has not reached, or has gone past the desired position, you have to adjust the DOWN LIMIT CAM. Adjust the cam anticlockwise to close the door more. To close the door less adjust the cam clockwise.
5.2 SETTING LIMITS FOR LEFT HAND INSTALLATION

(a) With Drive Unit in manual mode (disengage, see fig.14), move the door up by hand to desired position.

(b) Remove the Switch Cover (see Fig.9). Rotate by hand in an anticlockwise direction the UP LIMIT CAM (see Fig. 12) until the cam clicks the open limit switch.

(c) Move the door down by hand to the desired closed position.

(d) Rotate by hand in a clockwise direction the DOWN LIMIT CAM (see Fig13) until the cam clicks the close limit switch.

(e) Connect power lead from the Drive Unit into a general purpose power outlet installed by a licensed qualified electrical contractor. Turn the Power On.

(f) Re-engage the drive gear by push up the handle and then releasing slowly (see Fig 14).

OPEN LIMIT ADJUSTMENT

(g) Press the O/S/C Button on the board. The door should start opening. If the door stopped and the desired limit position has been reached then the limit adjustment is complete. If the door has not reached, or has gone past the desired position, you have to adjust the UP LIMIT CAM. Adjust the cam anticlockwise to open the door more. To open the door less adjust the cam clockwise.

CLOSE LIMIT ADJUSTMENT

(h) Press the O/S/C Button on the board again,. The door should start closing. If the door stopped and the desired limit position has been reached then the close limit switch adjustment is complete. If the door has not reached, or has gone past the desired position, you have to adjust the DOWN LIMIT CAM. Adjust the cam clockwise to close the door more. To close the door less adjust the cam anticlockwise.
6. FIXING THE DOOR CURTAIN TO DRUM WHEEL

The Door Curtain has to be secured to the drum wheel with suitable fasteners.
(a) With the door in the fully closed position mark the curtain (as per Fig. 15) on both ends of the door.
(b) Open door slightly to have access to the marked positions. Secure the curtain to drum wheel using self drilling screws (two on each end). The screws should be at least 90 degrees apart as per Fig. 15.

7. SETTING OF CLOSE SAFETY OBSTRUCTION AND OPEN FORCE

IMPORTANT: The setting for the open and close obstruction forces are the most important adjustments made in the whole installation procedure. Make sure that the force (load) is adjusted correctly as per the installation instructions. Failure to adjust these settings correctly could result in serious personal and/or property damage. The end user must be informed that they must test at regular intervals (once a month is recommended) these settings and the necessary adjustments made if required.

Notes: The Open and Close Obstruction Force adjustments procedure are the same for Left or Right Hand installation.

7.1 CLOSE SAFETY OBSTRUCTION FORCE ADJUSTMENT

(a) Fully open the door by pressing the O/S/C Button. The door will stop automatically when the open limit position is reached.
(b) Turn the DOWN FORCE shaft fully clockwise. Press the O/S/C Button again, the door should start closing. As the door is closing, turn the DOWN FORCE shaft slowly anticlockwise until the door stops momentarily then reverses to the open position.
(c) Turn the DOWN FORCE shaft 10 degrees clockwise. Press the O/S/C Button again to close the door. If the door reverses by itself, readjust the DOWN FORCE shaft a further 5 degrees clockwise. Keep adjusting in this manner until the door can complete the full closing cycle.

7.2 OPEN OBSTRUCTION FORCE ADJUSTMENT

(a) Fully close the door by pressing the O/S/C Button. The door will stop automatically when the close limit position is reached.
(b) Turn the UP FORCE shaft fully clockwise. Press the O/S/C Button again, the door should start opening. As the door is opening, turn the UP FORCE shaft slowly anticlockwise until the door stops.
(c) Turn the UP FORCE shaft 10 degrees clockwise. Press the O/S/C Button again to close the door. If the door stops by itself, readjust the UP FORCE shaft a further 5 degrees clockwise. Keep adjusting in this manner until the door can complete the full opening cycle.
7.3 CLOSE SAFETY OBSTRUCTION TEST
The door now has to be tested for response to an obstruction while it is opening and closing. Press the O/S/C Button with the door in the open position, the door should start closing. When the door reaches half the closing distances (see Fig.17) holding the bottom of the door with your hands. If the door does not reverse open readily the force may be excessive and need adjusting.
IMPORTANT: If the door is unable to reverse when obstructed discontinue use. Do not use a door with faulty obstruction setting. Repair fault and retest before using.

8. SETTING OF TRANSMITTER
8.1 LEARNING A TRANSMITTER
The transmitter must be LEARNT before use.
(a) Press the LEARN BUTTON for 2 seconds approximately, the LEARN LED will turns on (See Fig.18).
(b) Press the same button on the transmitter twice, the LEARN LED will flash about 8 times and then turns off.
(c) Then the transmitter has been learnt and the security code stored in the memory on board. Press the transmitter to see if it operates the door.
(d) Repeat the step (a)-(c) to learn another transmitter.
(e) Up to 6 transmitters can be learnt. If more than 6 transmitters are learnt, the FIFO (First In First Out) system applies the first code learnt will be deleted and replaced by the latest code learnt.

8.2 DELETE ALL TRANSMITTERS
If you want to delete all the stored transmitter codes, step as fellow:
(a) Press and hold the LEARN BUTTON, the LEARN LED will turns on.
(b) Holding the LEARN BUTTON 8 seconds approximately, the LEARN LED will turns off.
(c) Release the LEARN BUTTON, all the stored transmitter codes will be deleted.
(d) Confirm this by trying to operate the door by pressing one of the deleted transmitters.
IMPORTANT: It is strongly recommend deleting all transmitters and re-learning the transmitters when one of the learnt transmitters lost.
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<td><img src="image" alt="Door will not operate" /></td>
<td><img src="image" alt="Main power not turned on" /></td>
<td><img src="image" alt="Turn on" /></td>
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<tr>
<td><img src="image" alt="Door is obstructed" /></td>
<td><img src="image" alt="Fuse blown" /></td>
<td><img src="image" alt="Remove obstruction" /></td>
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<tr>
<td><img src="image" alt="Door reversing sensitivity not adjusted properly" /></td>
<td></td>
<td><img src="image" alt="Replace fuse" /></td>
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| ![Door will not operate](image)              | ![Door reversing sensitivity not adjusted properly](image) | ![Re-adjust reversing sensitivity](image)  
(Ref installation instruction Step 7.1) |
| ![Door moves downwards and reverses itself upward](image) | ![Indicator on transmitter not lighting](image)   | ![Battery flat or battery leads broken](image) |
| ![Door operates from drive unit but not from hand transmitter](image) | ![Transmitter has not been learnt](image)       | ![Refer to installation instructions-Step 8.2](image) |
| ![Door operates from drive unit but not from hand transmitter](image) | ![Drive Unit aerial wire not extended](image)    | ![Extent aerial wire](image)         |
| ![Door does not close fully](image)          | ![Limit micro switch incorrectly adjusted](image)  | ![Re-adjust limit switch](image)      
(refer to installation instructions-Step 5) |
| ![Door does not open fully](image)           | ![Limit micro switch incorrectly adjusted](image)  | ![Re-adjust limit switch](image)      
(refer to installation instructions-Step 5) |
| ![Lights not functioning](image)             | ![Globe blown](image)                             | ![Replace globe](image)              |
| ![Globes keep blowing](image)                | ![Incorrect globe](image)                         | ![Replace with 24V 5 Watts Festoon Globe](image) |
TECHNICAL SPECIFICATIONS

INPUT VOLTAGE: 220/230V AC 50Hz
(110V AC 60Hz or 127V AC 60Hz available on request)
Single Phase
Current Required 1Amp

TRANSFORMER SPEC.: Primary Voltage 230 / 240 V AC
Secondary Voltage 24V AC /100VA

MOTOR SPEC.: Motor Type Permanent Magnet D.C. Motor
Voltage 24 V DC
Torque 150 kg cm at 4 Amps

CONTROL BOARD SPEC.: Relay Contact Rating 12 Amp / 30V DC
Relay Coil Voltage 24 V DC
Control Board Voltage 24V DC / 5V DC
Light Globe Voltage 24V DC 5 Watts
Receiver Specification
Receiver Type FSK AM
RF Frequency 433.92 MHz
Code Storage Capacity 6 Different Codes
Control Distance >50m

TRANSMITTER SPEC.: Carrier Frequency 433.92 MHz
Current Consumption 50mA(approx)
Battery Voltage 12 Volts
Coding Format Rolling Code(7.38x10^16 Code Combinations)

OPENER LIFTING CAPACITY: 30 kg