ECOSOL BOOK 2 OF 2











VERSION 101116

ACCESSORIES



T-BOX WIRELESS KEYLESS ENTRY KEYPAD. Self-contained, standalone access keypad. 10 channels, 100 codes capacity. Compatible with the ECOSOL built-in radio receiver. Part no. **P121019**



RB WIRELESS WALLMOUNT CONTROL STATION. Up to 4 systems can be controlled with this sleek 4 button station. For indoor or outdoor use. Part no. **P121016**



SOLAR PANEL. 10 watts, 24v. Up to 3 can be installed to the system for increased charging capacity. Part no. **N999471**



HIGH CAPACITY BATTERIES. 12V, 9 Ah. To replace or add to existing system. Up to 4 batteries can be installed in the enclosure. They must be added in pairs. Part no. **KBAT12V9AH**



SECURITY BOLTS. To be used on solar panel bracket. Once fixed and secured, makes the removal of the bolts virtually impossible. Great for theft prevention. Part no. **N999475**



STAINLESS STEEL POST MOUNT BRACKET. For solar panel. Easy installation to post 2" to 4" in diameter. Part no. **N999473**

READ BEFORE INSTALLING

PRODUCT PURCHASE AND INSTALLATION

This product is intended to only be installed by a qualified professional technician. The warranty on the equipment may be voided if not properly installed. Warranty claims should be directed to the company or entity that sold the equipment. Purchasing non-installed equipment may later hinder any warranty claim because of conflict between the equipment provider and the installer entity. It is highly recommended for the system to be supplied and installed by a single entity.

SOLAR POWERED SYSTEM CONSIDERATIONS

The ECOSOL solar powered system is intended for residential applications and light commercial gate operation with limited cycles per day. While our system can operate over 300 cycles and/or provide over 2 weeks of standby time on fully charged batteries, it needs enough standby time to fully recharge the batteries or it will eventually run out of charge to operate the system. We highly recommend to keep the system as simple as possible and avoid adding accessories that draw current from the batteries. The ECOSOL interface board manages energy consumption and powers down all components, accessories and peripherals that are not required to operate while the gate is fully closed or after 5 minutes of inactivity. For optimum performance, we recommend the following setup:

•One or two actuators (Phobos BT or Igea BT) connected to the ECOSOL system.

•Two sets of photo-beam obstruction sensors.

•BFT radio transmitters and/or wireless keypads programmed to the ECOSOL's built-in low consumption receiver.

•Automatic closing timer enabled.

Anytime, additional accessories are added, it is suggested to increase the systems charging capacity by adding a solar panel. See page 15 for further information.

EXISTING GATE CONDITION

Automation should be installed on a gate which is moving freely. Any issue with the smooth opening or closing of a gate will not be corrected by adding automation.

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CAREFULLY READ ALL SAFETY INFORMATION. Pages 6 - 9
Install the gate operator(s) according to the installation manual (Book 1 of 2).
Determine the best location for your solar panel. Page 12
Secure ECOSOL enclosure to wall, column or post. Page 11.
\Box Determine the orientation and inclination of the solar panel and install it. Pages 12 & 13.
Wire solar panel or panels to the ECOSOL system Pages 14 & 15.
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Connect motor wires to the ECOSOL system. Page 23.
Connect obstruction sensing devices. Page 18.
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Set the controller to SINGLE GATE OPERATION if needed. Page 26.
Perform the AUTOSET. Page 26.
Set other features if needed. Page 27.
Adjust parameters if needed. Page 24.
Program remote controls and/or wireless keypad(s). Page 28.
Test all safety devices and features.

GATE AUTOMATION INSTALLATION SAFETY

While the manufacturer has designed the system under strict safety standards, it is ultimately the installers responsibility to follow and comply with national and local laws, codes and safety standards that apply to the mechanical, electrical and operational aspects of the gate automation system. These include but are not limited to: safety standards established by entities like Underwriters Laboratory (UL), NFPA 70, or codes and laws stated by corresponding state, county or municipality.

While it may not be compulsory, we highly recommend following UL 325 safety standards.

UL 325 VEHICULAR GATE AUTOMATION CLASSIFICATION

This system can be used in Class I, Class II and Class III applications.

- CLASS I RESIDENTIAL VEHICULAR GATE OPERATOR A vehicular gate operator (or system) intended for use in a home of one-to four single family dwelling, or a garage or parking area associated therewith.
- CLASS II COMMERCIAL/GENERAL ACCESS VEHICULAR GATE OPERATOR A vehicular gate operator (or system) intended for use in a commercial location or building such as a multi-family housing unit (five or more single family units), hotel, garages, retail store, or other building servicing the general public.
- CLASS III INDUSTRIAL/LIMITED ACCESS VEHICULAR GATE OPERATOR A vehicular gate operator (or system) intended for use in an industrial location or building such as a factory or loading dock area or other locations not intended to service the general public.
- CLASS IV RESTRICTED ACCESS VEHICULAR GATE OPERATOR A vehicular gate operator (or system) intended for use in a guarded industrial location or building such as an airport security area or other restricted access locations not servicing the general public, in which unauthorized access is prevented via supervision by security personnel.

UL 325 ENTRAPMENT PROTECTION REQUIREMENTS

For all installation classes, it is required to properly adjust the inherent obstruction sensing system (AUTOSET, page 26) and install warning signs on both sides of the gate, warning pedestrians of the dangers of the automated gate system. For Class I and Class II installations, it is required to add a non-contact device, such as a photoelectric eye **OR** a contact device such as a gate edge. For Class III installations it is required to add a non-contact device, such as a photoelectric eye, **AND** a contact device such as a gate edge **OR** an audio alarm such as a siren, horn or buzzer.

- 1. Install the gate operator only when:
 - a. The operator is appropriate for the construction and the usage class of the gate.
 - b. All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4' (1.2 m) above the ground to prevent a 2-1/4" (6 cm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position.
 - c. All exposed pinch points are eliminated or guarded, and guarding is supplied for exposed rollers.
- 2. The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. Locate the gate such that persons will not come in contact with the vehicular gate during the entire path of travel of the vehicular gate.
- The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.
- 4. The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
- 5. Controls intended for user activation must be located at least six feet (6') away from any moving part of the gate and where the user is prevented from reaching over, under, around or through the gate to operate the controls. Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use.
- 6. The Stop and/or Reset (if provided separately) must be located in the line-of-sight of the gate. Activation of the reset control shall not cause the operator to start.
- 7. A minimum of two (2) WARNING SIGNS (supplied with the gate operator) shall be installed, one on each side of the gate where easily visible.
- 8. For a gate operator utilizing a non-contact sensor:
 - a. Reference owner's manual regarding placement of non-contact sensor for each type of application.
 - b. Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate is still moving.
 - c. One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.
- 9. For a gate operator utilizing a contact sensor such as an edge sensor:
 - a. One or more contact sensors shall be located where the risk of entrapment or obstruction exists, such as at the leading edge, trailing edge and post mounted both inside and outside of a vehicular horizontal slide gate.
 - b. One or more contact sensors shall be located at the bottom edge of a vehicular vertical lift gate.
 - c. A hard wired contact sensor shall be located and its wiring arranged so the communication between the sensor and the gate operator is not subject to mechanical damage.
 - d. A wireless contact sensor such as the one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless contact sensor shall function under the intended end-use conditions.
 - e. One or more contact sensors shall be located on the inside and outside leading edge of a swing gate. Additionally, if the bottom edge of a swing gate is greater than 6" (152 mm) above the ground at any point in its arc of travel, one or more contact sensors shall be located on the bottom edge.
 - f. One or more contact sensors shall be located at the bottom edge of a vertical barrier (arm).

GENERAL SAFETY

WARNING! An incorrect installation or improper use of the product can cause damage to persons, animals or property.

• Automation should be installed on a gate which is moving freely. Any issue with the smooth opening of closing of a gate will not be corrected by adding automation.

• Scrap packing materials (plastic, cardboard, polystyrene etc) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children's reach.

• Keep this instruction manual for future reference.

• This product was exclusively designed and manufactured for the use specified in the present documentation. Any other use not specified in this documentation could damage the product and be dangerous.

• The Company declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.

• Do not install the product in explosive atmosphere.

• The Company declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.

• Follow and comply with national and/or local electrical codes when performing any electrical installation.

• Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.

• Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing, according to and in compliance with the applicable directives and technical standards.

• It is recommended to position at least one luminous signal indication device (blinker) where it can be easily seen for additional safety

• The Company declines all responsibility with respect to the automation safety and correct operation when other manufacturer's components are used.

• Only use original parts for any maintenance or repair operation.

• Do not modify the automation components, unless explicitly authorized In writing by the Company.

• Instruct the product user about the control systems provided and the manual opening operation in case of emergency.

• Anything which is not expressly provided for in the present instructions, is not allowed.

• Installation must be carried out using the safety devices and controls prescribed by the UL 325 Standard.

CHECKING INSTALLATION

Before the automated device is finally put into operation, perform the following checks meticulously:

- Make sure all components are fastened securely.
- Check that all safety devices (photocells, pneumatic safety edge, etc.) are working properly.
- Check the emergency operation control device.
- Check opening and closing operations with the control devices applied.
- Check the electronic logic for normal (or personalized) operation in the control panel.

ADJUSTING OPERATING FORCE

WARNING: Operating force is adjusted with extreme precision by means of the control unit's electronic control. Operation at the end of travel is adjusted electronically in the control panel. To provide good anti-crush safety, the operating force must be slightly greater than that required to move the leaf both to close and to open it.

CONTROL

There are various options when it comes to the control system (manual, remote control, access control with magnetic badge, etc.) depending on the installation's needs and characteristics. See the relevant instructions for the various control system options. People due to use the automated device must be instructed how to control and use it.

The installer is responsible for communicating the following information to the end-user:

This product has been designed and built solely for the purpose indicated herein. Uses not contemplated herein might result in the product being damaged and could be a source of danger.

The Firm disclaims all responsibility resulting from improper use or any use other than that for which the product has been designed, as indicated herein, as well as for failure to apply Good Practice in the construction of entry systems (doors, gates, etc.) and for deformation that could occur during use. If installed and used correctly, the automated system will meet the required level of safety. Nonetheless, **it is advisable to observe certain rules**

of behavior so that accidental problems can be avoided:

- Keep adults, children and property out of range of the automated system, especially while it is operating.
- Operate the system when the full path of the gate is within sight.
- It is essential to frequently check that all safety devices are in good working condition.
- This application is not meant for use by people (including children) with impaired mental, physical or sensory capacities, or people who do not have suitable knowledge, unless they are supervised or have been instructed by people who are responsible for their safety.
- Children must be supervised to ensure they do not play with the system. Keep remote controls or other control devices out of reach of children in order to avoid the automated system being operated inadvertently.
- Check the system frequently, especially hinges, cables, springs or supports, to detect any loss of balance and signs of wear or damage.
- When cleaning the outside or performing other maintenance work, always cut off mains power.
- Keep the photocells' optics and illuminating indicator devices clean. Check that no branches or shrubs interfere with the safety devices (photocells).
- Do not use the automated system if it is in need of repair. In the event of a malfunction, cut off the power, activate the emergency release to allow access and call in qualified technical personnel (professional installer).
- If the automated system requires work of any kind, employ the services of qualified personnel (professional installer).
- Anything that is not explicitly provided for in these instructions is not allowed.
- The operator's proper operation can only be guaranteed if the information given herein is complied with. The Firm shall not be answerable for damage caused by failure to comply with the installation rules and instructions featured herein.
- Have the complete system checked including all safety devices by a qualified professional technician at least once a year.

Descriptions and illustrations herein are not binding. While we will not alter the product's essential features, the Firm reserves the right, at any time, to make those changes deemed necessary to improve the product from a technical, design or commercial point of view, and will not be required to update this publication accordingly.

THE SYSTEM

ECOSOL INTERFACE BOARD Regulates the power from the solar panel(s) • Monitors battery charge Charges batteries · Manages power. Shuts down all components not needed when system is not in use LIBRA UL-R CONTROLLER • Processes starting commands. Powers up the system and • Controls (2) Phobos BT or Igea BT operators. relays signals once system is operational • Self learning torque settings. • Receives radio commands. Has a built-in low power Adjustable independent gate leaf delay consumption radio receiver with a 64 transmitters capacity, eliminating the need for external receivers C FUSE 1.25A/T 8888 m۲ - -J JP2 0 (DL3) \odot LIBRA . \odot 10A FUSE 8 **TEST BUTTON** 0 0 0 0 0 0 0 0 0 0 Triggers the START D input for the installer's and oЦ service technician's E. convenience. \odot \odot MOTOR 2 + LOOP DETECTOR SINGLE GATE MOTOR 2 -<u></u> \odot SHADOW RELAY OPERATION MOTOR 2 FC 🚫 0 0 0 0 0 **TERMINAL BLOCKS THREADED HOLES** MOTOR 1 + 0 Clearly labeled, easy For the installation of (2) DUAL GATE MOTOR 1 0 access terminal block LOOP DETECTOR OPERATION **Diablo Controls DSP-6LP** MOTOR 1 FC 🚫 🚫 connections or DSP-7LP RU (2) 12V, 9 Ah batteries 30% more capacity than standard 7 Ah batteries

ENCLOSURE LOCATION

Because the maximum length of the cable that connects the solar panel and the ECOSOL enclosure is limited to 15 feet, it is more important that the final location of the enclosure is close to the location of the solar panel than to the location of the gate operators.





Solar panel MUST FACE SOUTH

SOLAR PANEL LOCATION - The solar panel must be located on a unshaded area away from trees and/or tall structures that may cast a shadow during any time of the day or year. It is extremely important to be aware that the sun has a lower path in the sky during the winter months and objects that may not cast shadows over a certain area during summer, may cast them during the winter. Also, trees may grow and cast larger shadows over time.

SOLAR PANEL INCLINATION - The degrees of inclination in reference to ground level should be set according to your location and the illustration below. **Example**: If installed in the state of Georgia, the panel must have a 40° inclination. If installed in Wyoming the panel must have a 50° inclination.



MOUNTING THE SOLAR PANEL



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KEEP THE CABLES AS SHORT AS POSSIBLE!!

The wires should be stranded 16 AWG or better and no longer than 15ft.



INSTALLING THE BATTERIES



POWER UP

The ECOSOL /Libra is shipped with the batteries leads pre-installed. The negative (black) lead is not connected to prevent discharge before installation. To power up the system, connect the black lead to the negative battery terminal



ADDING MORE BATTERIES

The ECOSOL/Libra enclosure can hold up to (2) pairs (4 total) batteries for greater energy storage capacity. The battery brackets must be removed and the batteries must be rotated longways in order to fit them inside the enclosure.



SINGLE GATE OPERATION



DUAL GATE OPERATION

When installing **dual gate** where the gates **overlap** (or has a lock mechanism), it is important that the **motor that needs to open first is wired to MOTOR 2** terminals.

During the **open cycle**, **MOTOR 2 starts first** (MOTOR 1 has a delayed open start). During the close cycle, MOTOR 1 starts first (MOTOR 2 has a delayed close start).Both delays can be independently adjusted from 1 to 29 seconds. Please refer to page 24 for further instructions.



PHOTO BEAM AND SAFETY EDGE SENSORS

Photo-beam sensors should only be used as safety devices, **NEVER** as free exit devices.



MAGNETIC LOOP DETECTORS

Loop detectors must ALWAYS BE POWERED to ensure proper detection.

Avoid the utilization of loop detectors. They decrease the standby time as well as the cycles per day. They also increase the battery charge time. If loop detectors are a must in your installation, look for low power consumption loop detectors such as **Diablo Controls** models **DSP-6LP** and **DSP-7LP**. ADDING AN ADDITIONAL SOLAR PANEL IS RECOMMENDED.



MULTIPLE SAFETY DEVICES

NOTE: If more than one device needs to be wired to the Safety input, they must be wired in series

OPENING DEVICES

WIRELESS

The ECOSOL system has a built-in, low power consumption, radio receiver for BFT remote controls and wireless keypads. Any additional opening device powered off the system will decrease the system's battery performance



SEE PAGE 28 FOR PROGRAMMING INSTRUCTIONS

HARD WIRED

Avoid the utilization of external opening devices that require to be powered off the ECOSOL system. They decrease the standby time as well as the cycles per day capacity. They also increase the battery charge time. If a "free exit" device is a must in your installation, look for <u>low power consumption loop</u> <u>detectors</u> such as **Diablo Controls** models **DSP-6LP** and **DSP-7LP** or other low consumption devices. ADDING AN ADDITIONAL SOLAR PANEL IS RECOMMENDED.



START / CLOSE INPUT

The Start/Close input can be used for a single push button operation to open, stop and close commands



STOP / RESET BUTTON

The Stop button also resets the controller if two consecutive physical obstructions are detected. This is a **NORMALLY CLOSED** contact. The factory installed jumper must be removed for stop button to operate.



3-BUTTON STATION (open, stop, close)

A 3-button station can be hard-wired using the START/CLOSE as close input. This input must be defined as CLOSE ONLY INPUT at the controller. See page 25 (START-CLOSE) for directions.

ECOSOL SETTINGS



<u>Once it turns off</u>, release the RADIO LEARN BUTTON.

LED LEGEND

- LED2 Libra programming jumper (JP14) on indicator
- LED3 (1 flash/sec) Learning transmitter as START input.
 - (2 flashes/sec) Learning transmitter as OPEN input.
 - (Steady) Hidden button learned.
 - (3 flashes) Low battery (below 24V)
- LED4 Charging batteries



NAVIGATE THE PROGRAMMING MENU

Use the LCD display and the 3 buttons on the upper right corner of the Libra UL-R to navigate and manipulate the menu.



MAIN MENU

The main menu has 6 options. Of these 6, the first 3 are sub-menus (PARAMETERS, LOGIC, RADIO). Because the transmitters are programmed to the ECOSOL interface board, the RADIO sub-menu MUST NOT BE USED!

> USE THE 💽 🕂 AND 💽 — BUTTONS TO SCROLL UP AND DOWN THE MENU

USE THE OK BUTTON AS "ENTER" TO SELECT A MENU CHOICE OR CONFIRM A PROGRAMMING ORDER

DESCRIPTION
PARAMETERS – Sub-menu where times and percentages are set (toque settings, run times, timer to close). See page 24.
LOGIC – Sub-menu where features are enabled or disabled. See page 25.
RADIO – Sub-menu where wireless devices DO NOT USE WITH ECOSOL etc.) are programmed or deleted.
LANGUAGE – Menu area where the selection of the menu language is made
DEFAULT – By selecting this menu option, the control board restores all its factory settings and changes language to Italian. The RADIO area remains unchanged.
AUTOSET – By selecting this menu option, the actuators will automatically open and close at full torque and will self adjust its torque settings according to the gate weight. The operator's limit switches must be set and the gates must be in the fully closed position prior to performing the AUTOSET. Please refer to the operator's manual for proper limit switch setting procedure.



PARAMETERS SUB-MENU 24 WHILE IN THE SUB-MENU Navigation of the sub-menu is the same as the main menu. Once a sub-menu selection has been made: USE THE 💽 🕂 AND 📜 — INCREASE OR DECREASE THE PARAMETER VALUE USE THE OK BUTTON AS "ENTER" TO CONFIRM THE DESIRED VALUE PRESS 间 🕂 AND 📜 — AT THE SAME TIME TO RETURN TO THE MAIN MENU PARAMETER OPTIONS DISPLAY DESCRIPTION EcR • TCA - Auto Close Timer. Range: 3-60 seconds. Default: 10 ūΙΕ • M1 T - Motor 1 Torque. Range: 1-99%. Default: 50 77 E • M2 T - Motor 2 Torque. Range: 1-99%. Default: 50 Π E 5ιο" • M1 T SLOW - Motor 1 Slowdown TorqueNO EFFECT WITH ECOSOL 72 E Sco<u>"</u> M2 T SLOW - Motor 2 Slowdown TorqueNO EFFECT WITH ECOSOL oPEn dELAY LE • OPEN DELAY TIME - Motor 1 open delay. Range: 1.0-10 seconds. Default: 1.0 CLS DELAY TIME - Motor 2 close delay. Range: 1.0-10 seconds. Default: 1.0 • M1 FAST TIME - Motor 1 full speed run tim NO EFFECT WITH ECOSOL Default: 15.0 02 FASE E 00E M2 FAST TIME - Motor 2 full speed run tim NO EFFECT WITH ECOSOL Default: 15.0 Suol SPEEd SLOW SPEED - Slowdown speed. Range: 0NO EFFECT WITH ECOSOL Default: 0 ZonE • ZONE - NOT USED

LOGIC SUB-MENU

WHILE IN THE SU	JB-MENU		
Navigation of the sub-menu is the same as the main menu. Once a sub-menu selection has been made:			
USE 🖲 🕂 TO TURN	ON AND 🧾 — TO TURN OFF THE SELECTED FEATURE.		
USE THE 💽 OK BUTT	ON AS "ENTER" TO CONFIRM THE DESIRED VALUE		
press 💽 🕂 and 🎑	AT THE SAME TIME TO RETURN TO THE MAIN MENU		
LOGIC OPTIONS			
DISPLAY	DESCRIPTION		
EcA	• TCA – Auto Close Timer. Default: OFF		
3 SEEP	• 3 STEP – Instant reverse . Gate instantly reverses on START activation during the CLOSE cycle as opposed to stopping and requiring a 2 nd START input for re-opening. Default: OFF		
ирг орби	IBL OPEN - Ignore START input during OPEN cycle . Default: OFF		
FASE CLS	• FAST CLS - Gate closes immediately after SAFETY input is cleared. Default: OFF		
Photoc oPEn	• PHOTOC OPEN – Ignore SAFETY input during OPEN cycle . If OFF, gate stops on SAFETY input activation during the OPEN cycle. Default: OFF		
EESE Phot	• TEST PHOT – Enables the SAFETY input supervisio DO NOT USE WITH ECOSOL		
l ñot on	• 1 MOT ON - Single gate operation. Ignores MOTOR 1. Default: OFF		
טר PErS וSt	• BLOC PERSIST - Operator pushes for 0.5 seconds after CLOSE limit is • reached. PHYSICAL GATE STOP IS REQUIRED. Default: OFF		
StArt-cloSE	• START-CLOSE – Converts START/CLOSE input into CLOSE ONLY input . Default: OFF		
F _' HEd codE	• FIXED CODE – Disables the receiver's rolling code fNO EFFECT WITH ECOSOL		
rAdı <mark>o Pro9</mark>	• RADIO PROG – Enables Quick Remote Programmin NO EFFECT WITH ECOSOL		
<i>i</i> ASEEr	• MASTER - NOT USED. Default: OFF		

THE PROGRAMMING MAIN MENU		
Press the 💽 OK 🛛 button twice t	to enter the programming MAIN MENU	
Use the 🧾 🕂 and 🧾 — H	buttons to navigate up or down the MAIN MENU	
Press the 💽 🕂 and 🗵 —	buttons AT THE SAME TIME to exit programming End	

SINGLE MOTOR OPERATION
From the main programming menu, scroll to Logic and press OK FLR
Scroll down to lock on and press OK oFF
Press the 💽 🕂 button to switch to 👝 🛛 and press 💽 OK 🛛 Pr 9 🗌 ፲ ፲ ፲ ፲ ፲ ፲ ፲ ፲
Use the 🧾 🕂 and 🧾 — buttons to navigate up or down the LOGIC Sub-menu
Press the 💽 🕂 and 💽 — buttons AT THE SAME TIME to return to the MAIN MENU Logic

AUTOMATIC TORQUE ADJUSTMENT (AUTOSET)
WARNING - Gate path must be free of all traffic and obstructions. The system will
automatically open and close the gate at full torque while performing the self-learning
adjustment. Failure to do so can result in property damage and/or bodly injury including
death.
Gate must be fully closed and operators must have the CLOSE limit triggered before starting
From the main programming menu, scroll to RULOSEL and press 💽 OK
Upon completion of the close cycle, the screen should display 🖬 . Press 💽 OK 🛛 to finalize the
process.
If Ho is diplayed, check for unsual physical gate hardware resistance or incorrect installation
geometry and try again.
Use the 🧾 🕂 and 🧾 — buttons to navigate up or down the MAIN MENU
Press the 🧾 🕂 and 🧾 — buttons AT THE SAME TIME to exit programming End

COMMON OPTIONS





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RADIO TRANSMITTERS



MAINTENANCE

SOLAR PANEL

The cells in a solar panel are dependent one on another. If one cell is shaded, it affects the output of the rest of the cells in the panel. Depending on which cell is obstructed, the total output of the panel can decrease by over 75%. It is very important to keep the surface of the solar panel clean and free of any obstruction.

Because the sun has a lower path in the sky, and the days are shorter during the winter months, our suggested panel inclination is optimized for this time of the year. Verify that the solar panel has not been moved and that its inclination and orientation is correct. Refer to page 12 for more information.

SURROUNDING AREA

Inspect the surrounding area at least every winter. Objects can cast a longer shadow during the winter than during the summer. Also, trees and foliage can grow and cast shadow in areas previously clear of any shadows.

BATTERY

The batteries included with your ECOSOL system are sealed maintenance free batteries. However, depending on usage and temperature conditions your batteries will require periodic replacement. Batteries may last up to 5 years under optimal conditions. Please call your qualified service technician for the replacement of them. See page 16 for more information on battery installation.

GATE OPERATOR

Gate operator maintenance should be performed by a qualified service technician. Please refer to the operator's manual (Book 1) for more information.

GATE HARDWARE

Disengage operator(s) using its manual release. Open and close the gate manually and look for unusual resistance. The gate should not drag on the floor at any point of the travel and it should move freely without much effort. If any anomaly is found, do not re-engage the operator and call your qualified service technician for repairs.

TROUBLESHOOTING

System does not tur	n on	1	
1. Press the test button. System should power up and after a short delay gate should start moving.	2. Make sure that both battery leads and the jumper between the batteries are connected, and the polarity is correct. Page 16.	3. Inspect the ECOSOL interface board main fuse for continuity.	4. Completely disconnect the batteries and measure voltage. Each battery should at least measure 8 volts for the system to power up.
System turns on, bu	t gate does not move	•	
1. Verify that dip-switch 3 is turned on at the ECOSOL interface board. Page 21.	2. Inspect external devices such as photo-beam sensors for obstruction detection or false activation.	3. Press the reset button and retry. If gates move after reset, inspect the gate hardware by moving the gates manually and checking for unusual resistance.	4. Inspect motor lead connections both at the enclosure and the operator. Page 17.
Gate stops and reverses after it starts to move. AMP is displayed on board.			
1. Check for physical obstructions on the gate path.	2. Inspect the gate hardware by moving the gates manually and checking for unusual resistance.	3. Reset torque settings by performing an AUTOSET. Page 26.	
Gate stops during the	ne opening cycle.		
1. Make sure that the safety devices are not being triggered. To ignore external safety devices during the opening cycle, enable the PHOTOC OPEN option under the LOGIC sub-menu. Page 27.	2. Inspect the gate hardware by moving the gates manually and checking for unusual resistance.	3. Reset torque settings by performing an AUTOSET. Page 26.	
After days of operation, the system stopped working.			
1. Make sure that the jumper on JP14 is not closed (over both pins). Page 22.	2. Check wire connections between solar panel and ECOSOL. Page 14.	3. Make sure that the solar panel is not shaded at anytime during the day.	4. Verify angle and orientation of solar panel. Page 12.
5. Add an additional solar panel to increase the system's recharging capacity. Page 15.	6. Add an additional pair of batteries to increase the energy storage capacity. Page 16.		

DISPLAY GLOSSARY

1 MOT ON - See page 25 مع عمت ا	III M1 - Refers to MOTOR 1
3 SEEP 3 STEP - See page 25	Image: Image state Image: FRSE building M1 FAST TIME - See page 24
Rdd 5ER-E ADD START- DOESN'T APPLY TO ECOSOL	III M1T - See page 24
AMP - Indicates motor overload.	Image: Image See page 24
RULOSET - See page 23	M2 - Refers to MOTOR 2
bLoc PErSiSE BLOC PERSIST - See page 25	Image: mage set of the set
CLS- CLOSE input triggered	м2 т - See page 24
CLS DELAY TIME - See page 24	<mark>ла на Slow</mark> - See page 24
COD RX - DOESN'T APPLY TO ECOSOL	Image: master See page 25
JEFRULE DEFAULT - See page 23	DH OK - Indicates programming accepted
DESIRED BUTTON - DOESN'T APPLY TO ECOSOL	OPEN - OPEN input triggered
End END - Indicates END OF PROGRAMMING	OPEn dELRY LE OPEN DELAY TIME - See page 24
Eng - ENGLISH language	PR-R. PARAM - See page 23
E-RSE 64 - DOESN'T APPLY TO ECOSOL	Phot PHOT - SAFETY input triggered
ESP SPANISH language	Photoc oPEn PHOTOC OPEN - See page 25
FRSE CLS - See page 25	ר RADIO - See page 23 RADIO
F HEd codE FIXED CODE - See page 25	rRd p Prog RADIO PROG - See page 25
FLE FLT - DOESN'T APPLY TO ECOSOL	FELERSE RELEASE - DOES NOT APPLY TO ECOSOL
FrR - FRENCH language	5.o'' SPEEd SLOW SPEED - See page 24
h יddEn bULton HIDDEN BUTTON - DOESN'T APPLY TO ECOSOL	START-CLOSE - See page 25
истребота IBL OPEN - See page 25	STOP - STOP input triggered
ודא - ITALIAN language	Strt - START input triggered
Ho KO - Indicates programming error	ECR TCA - Refers to TIMER TO CLOSE. See pages 24 & 25.
LANGUAGE - See page 23	LEST Phot TEST PHOT - See page 25
LOGIC - See page 23	ZonE ZONE - See page 24



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