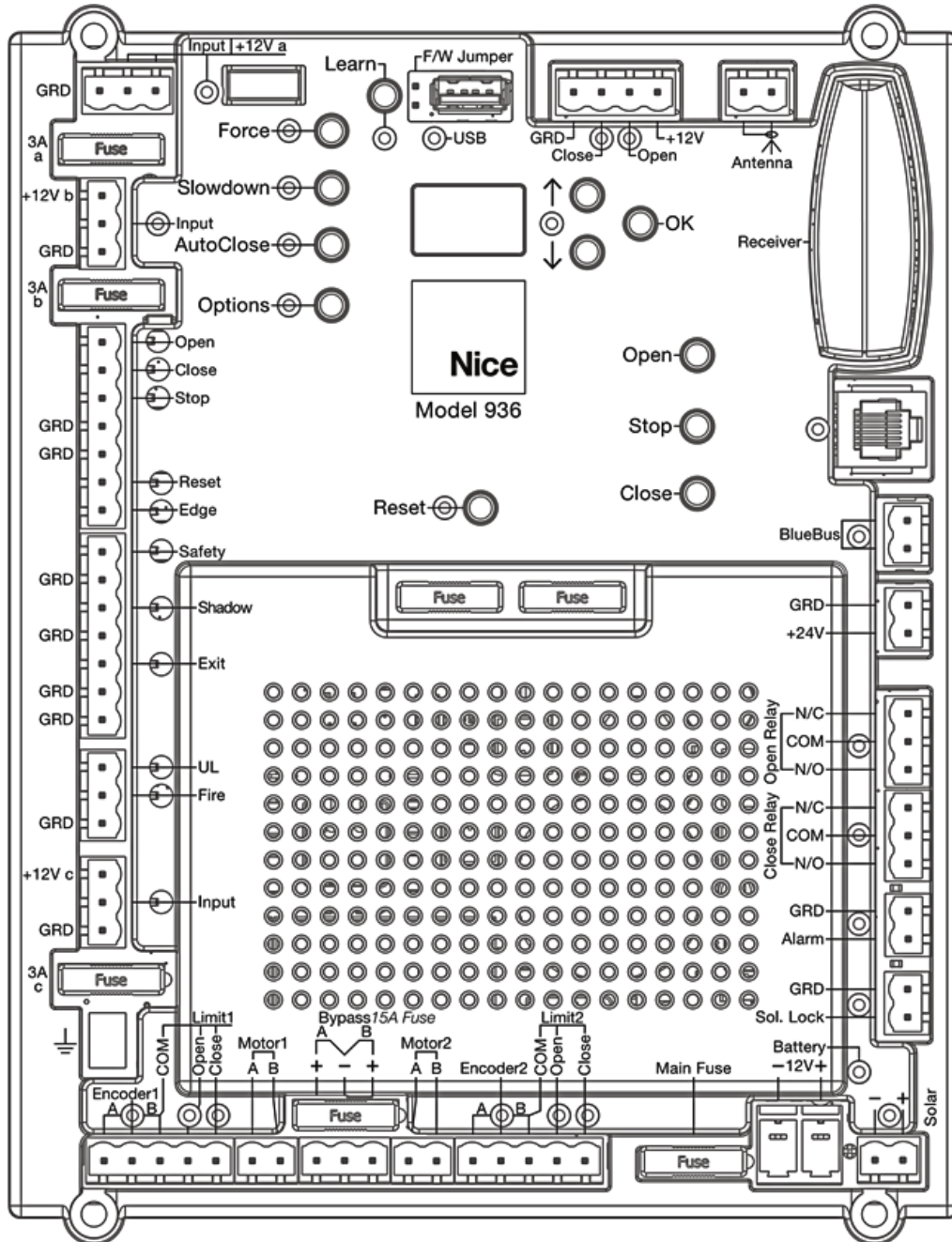


Nice 936 Control Board



Vehicular Gate Control Board



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CAUTIONS AND NOTES

This instruction manual is intended to aid the installer in the overall process of correct installation at the desired location. Periodically, the manual will illustrate “warnings, cautions and notes” which are items the installer should carefully read to prevent damage to the gate, gate system or personal injury to yourself or others.

EXTREMELY IMPORTANT

Anyone who installs, assists with installation or otherwise facilitates the installation in any manner should thoroughly read and understand this manual in its entirety before any attempt is made to actually begin the installation process.

ETL DEFINITIONS COMPLIANT TO UL325

- Vehicular Slide-Gate Operator (or system) - A vehicular gate operator (or system) that controls a gate which slides in a horizontal direction that is intended for use for vehicular entrance or exit to a drive, parking lot, or the like.
- Gate - A moving barrier such as a Swinging, sliding, raising, lowering, rolling, or like barrier that is a stand-alone passage barrier or is that portion of a wall or fence system that controls entrance and/or egress by persons or vehicles and completes the perimeter of a defined area.
- Residential Vehicular Gate Operator - Class I - A vehicular gate operator (or system) intended for use in a home of one to four single family dwellings, or a garage or parking area associated therewith.
- Commercial / General Access Vehicular Gate Operator - Class II - 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 buildings servicing the general public.
- Commercial / General Access Vehicular Gate Operator - Class III - A vehicular gate operator (or system) intended for use in an industrial location, loading dock area, or other location not intended to service the general public.
- Commercial / General Access Vehicular Gate Operator - Class IV - A vehicular gate operator (or system) intended for use in a guarded industrial location or buildings such as airport security area or other restricted access locations not servicing the general public, in which unauthorized access is prevented via supervision by security personnel.

1 - OVERVIEW

This manual provides documentation that covers the layout, electrical installation, and programming of the Nice 936 gate controller for a typical installation. Please consult your Nice distributor for more information regarding installations or questions not specifically covered in this manual.



**DO NOT CONNECT
A/C POWER TO THIS
CIRCUIT BOARD!**

This circuit board is designed for
10VDC - 35VDC power input only.

1.1 - 936 control board

The 936 control board is housed in a protective plastic enclosure that includes two 7-segment LEDs, five dedicated programming buttons and three buttons for navigation of the setup and programming menus. Connectors for power, input and output peripherals are arranged around the edges of the board and clearly labeled. A plug-in connector is provided for direct installation of a Nice-brand receiver which can be associated with up to 1000 remote controls. Connectors for other Nice-brand plug-in accessories include the 2-wire Bluebus photocells for entrapment protection. Dry contact inputs are provided for loop, probe, and photoelectric detectors as well as edge sensors, guard station inputs, and fire department control. Voltage outputs (+12VDC and +24VDC) are available to power other safety and entrapment-prevention devices, along with a solenoid lock output.

The 936 control board accepts DC input voltage ranging from +10VDC to +35VDC with input polarity protection on the main input and the solar charge input. All settings are stored in non-volatile memory that is protected from power outages. Gate operating speed, acceleration, and soft-start settings may be customized as required by the installer. Built-in current sensing provides inherent gate force monitoring and limiting for safety. The “Learn” function helps the gate installer configure the 936 control board semi-automatically for optimum settings of gate opening and closing speeds.

1.2 - Main control board specifics

- Inputs for Battery and solar panels.
- Motor outputs for two motors.
- Low power consumption in stand-by mode.
- Built-in charge regulator to maintain battery charge.
- Socket for plug-in Nice receivers.
- Easy setup with 7-segment LEDs and dedicated buttons.
- Setup and learning stored in on board memory.
- Digital programming for auto-close timing, force, speed, and opening delay.
- On-board buttons for operating the gate (Open, Close, Stop).
- Inputs for guard station, additional third party receivers, loop detectors, Fire, and UL/Edge signals.
- Two programmable outputs (Alarm and Solenoid Lock).
- 2 SPDT dry contact outputs controlled by opening and closing condition.
- Surge suppression on every peripheral input and output, up to 1200A.
- Bluebus port for Nice self-monitored, entrapment protection devices.
- USB port and boot loader for easy software updates.
- Motor bypass connectors for rapid troubleshooting an actuator and positioning a gate.

2 - GATE INFORMATION

2.1 - ASTM F2200

Gates shall be constructed in accordance with the provisions given for the appropriate gate type listed, refer to ASTM F2200 for additional gate types. Protrusions shall not be permitted on any gate, refer to ASTM F2200 for exceptions if any

Any non-automated gate that is to be automated in any manner should be upgraded to conform to the provisions contained within the provisions of this document and ASTM F2200 as applicable.

2.2 - Gate latches

In association with this gate controller and these operators, at no time should manual gate latches or locks be used. The forces applied to an operator could be in excess of those forces which are safe for bystanders. Should unnecessary forces be applied to a gate system which is in the locked position, the catastrophic failure of the gate or locking mechanism could result in substantial damage, extensive physical injury and or death.

2.3 - Specific applications

This gate operators are intended for those locations where vehicle traffic is intended to be controlled through the use of an entryway obstruction (gate). The gate system should be made of closed material types which prevent any body part from entering, becoming entangled or otherwise entering the gate in any manner. If the gate is not fully closed off from access, the opening or closing of the gate system may result in severe damage, injury or death.

2.4 - Swing and slide gates

Swing and slide gates are designed to move across an entry control point to prevent or allow controlled access by authorized persons or equipment. Swing or slide gate systems are not necessarily completely autonomous systems, and require regular maintenance and inspection on a periodic schedule. Although with certain safety devices in place the gate system could operate as a completely independent system free from human interaction for a defined period of time, human inspection and testing is required to ensure longevity and safe operation over long periods of time.

2.5 - General requirements

- Safety and security are obviously a number one priority for both the manufacturer and the end user. As a result this manual has been written to make all persons fully aware of the responsibilities required to ensure constant safety, security and longevity are acquired throughout the life of the system.
- The manufacturer of this swing gate system has performed countless hours of testing, analysis and statistical control analysis to ensure that this operator performs its intended function for extended periods of time. The installer should ensure and verify that all required safety devices are installed correctly and in a manner consistent with the requirements of this manual. Additionally, all devices, security devices, safety devices, sensors and other affiliated attachments are installed in a robust manner that will prevent their accidental damage, removal or incidental tampering.
- A basic requirement for this system to operate correctly is that at any time a sensor is triggered, covered, disconnected or otherwise tampered with, that the entire system ceases to function. If any part of the gate safety system is removed or triggered, an immediate safety action by the gate operator is expected (retraction or stoppage). If the gate safety system is not functional, or fails to operate within these guidelines, the gate should be immediately removed from service until repairs can be made.
- Any gate system that is open or has slats, bars or other material which allows an individual to stick their hands, head, or feet through the material, must be converted or covered in such a manner so as to prevent such future actions. Application of materials, and how to modify the gate system is up to the end user or installer, however care should be taken to prevent such human interaction into the moving gate system. No entry into the gate is ever authorized and should be prevented by whatever measures are required for that specific installation. Care should always be used during installation!
- Loops and loop detectors, photo-cells or other equivalent devices must be installed with this gate operator to prevent the gate from closing on vehicular traffic
- The speed limit for vehicular traffic through the gate area is 5 MPH. Install speed bumps and signs to keep vehicular traffic from speeding through the gate area. Failure to adhere to posted speed limits can result in damage to the gate, gate operator, and to the vehicle.
- Be sure that all residents are familiar with the proper use of the gate and gate operator. Be sure that all residents are familiar with the possible hazards associated with the gate system.
- Be sure that all warning signs are permanently installed on both sides of the gate in an area where they are fully visible to traffic
- It is your responsibility to periodically check all reversing devices. If any of these devices are observed to function improperly, remove the operator from service immediately and contact your installing or servicing dealer.

- Follow the recommended maintenance schedule of one inspection per every 180 days of use.
- Do not allow children to play in the area of the operator or to play with any gate-operating device.
- Be sure that all activating devices are installed a minimum distance of 8 feet away from the gate and gate operator, or in such a way that a person cannot touch the gate or gate operator while using the activating device. If activating devices are installed in violation of these restrictions, immediately remove the gate operator from service and contact your installing dealer.
- To remove the gate operator from service, operate the gate to the full open position, shut off power to the operator at the service panel, and disconnect batteries.



AUTOMATIC GATES ARE NOT FOR PEDESTRIANS!



Automatic gate openers are designed for vehicular traffic. They are powerful and can cause serious bodily injury or death. Accordingly, direct all pedestrian traffic to a separate walk-through gate.

3 - SAFETY AND CAUTIONS



WARNING

IMPORTANT SAFETY INSTRUCTIONS

WARNING - TO REDUCE THE RISK OF INJURY OR DEATH READ AND FOLLOW ALL INSTRUCTIONS.

- Never let children operate or play with gate controls. Keep the remote control away from children.
- Always keep people and objects away from gate. NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.
- Test the operator periodically. The gate MUST reverse on contact with a rigid object or stop or reverse when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of injury or death.
- Use the emergency release only when the gate is not moving.
- KEEP GATES PROPERLY MAINTAINED. Read the owner's manual. Have a qualified service person make repairs to gate hardware.
- The entrance is for vehicles only. Pedestrians must use separate entrance.
- SAVE THESE INSTRUCTIONS!

3.1 - Properly installed safety devices

Safety devices are used to sense, register and prevent damage to vehicular traffic which may block the path of the gate system. If properly installed and inspected for functionality within the prescribed maintenance procedures, the safety devices should prevent the gate system from inflicting harm or damage as a result of its opening and closing action.

3.2 - Safety signs, notices to personnel warning signs

Safety signs must alert all who may enter the gate system area, as to the danger posed by moving equipment. Safety features must be installed and work correctly, such as an infrared beam, which is a safety device that prevents serious injury or death as a result of the gate closing while an object or person blocks the gate operating pathway. An optional flashing lamp that is activated anytime the gate is moving should be added in addition to the aforementioned safety features.

3.3 - Gate system safety devices

Automatic gate operators are designed to move a heavy steel gate. Great amounts of force are sometimes used to move these heavy systems. The automatic gate system may cause significant damage or injury if the path of the gate is obstructed. All sensors, safety devices and warning notices must be in place and operable in order for this system to operate properly. It is the installer's responsibility to install this system properly and to ensure its correct and safe operation.

3.4 - Infrared beams and warning signs

Infrared beams are used to inform the control board that an obstruction is present. Safety devices must be installed properly and inspected periodically to ensure continued reliability and safety. Safety devices, safety sensors, warning signs and notices of moving equipment danger must be installed and readily visible by all paths of approach to the gate system. Failure to post warnings could result in loss of life, damage or physical injury.

3.5 - Establish the location

The installer of this system needs to establish the location of the opener in accordance with instructions contained within this manual. A typical layout is provided at the end of this manual with a nominal basic drawing. It is the installer's responsibility to ensure that the opener is installed in such a fashion so as to prevent binding, pinching or improper articulation of the system throughout its actuation cycle.

3.6 - Read and follow all instructions

3.7 - Keep children away

Never let children operate or play with gate controls. Keep the remote control away from children.

3.8 - Test the gate system

The gate must reverse on contact with a rigid object and stop when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of injury or death. Test force and correct functionality of photo-eyes and other safety devices at least every 6 months. ONLY USE the MANUAL RELEASE when the gate is not moving or when the unit fails or in case of power outage.

- Turn the power to the gate controller OFF AND REMOVE BATTERIES before using the emergency release.

3.9 - Keep gates properly maintained

Have only a qualified service person make repairs. Unqualified service technicians are not recommended.

4 - INSTALLATION NOTES

Before installing and/or operating the gate opener, installers and/or users should do the following:

- Confirm the gate operator being installed is appropriate for the site.
- Confirm the gate is designed and built according to current applicable published industry standards.
- Confirm all appropriate features and accessory devices are being incorporated, including both inherent and external entrapment protection devices.
- Make sure the gate moves freely before installing the operator.
- Repair or service worn or damaged gate hardware before installing the operator.
- Adjust the FORCE device to the minimum force setting that allows reliable gate operation.
- Install operator inside fence line (DO NOT install operator on public side of fence line).
- Swinging gates shall not open into public access areas.
- Install a proper electrical ground to a gate operator and attach the ground rod to the earth ground connector on the 936 board (see section 5).
- Install keypad controls where users cannot touch, or reach through gate while operating controls, which is a minimum of 8 feet from the gate.
- Install controls where user has full view of gate operation.
- Install all warning signs (In accordance with UL 325) on both sides of the gate to warn persons in the area of potential hazards associated with the automatic vehicular gate operation.

- A minimum of two (2) WARNING SIGNS shall be installed, one on each side of the gate where easily visible.
- Test all features for proper functions before placing the automatic vehicular gate operator into service.
- Demonstrate the basic functions and safety features of the gate system to owners/end users/general contractors, including how to turn off power and how to operate the manual release feature.
- Leave safety instructions, product literature, installation manual and maintenance instructions with end user.
- Explain to the owners/users the importance of a service contract that includes a routine testing of the entire system including the entrapment protection devices, and explain the need for the owners to insure that this testing is performed routinely.
- Offer the owner/end user a maintenance contract, or contact them regularly to offer maintenance.
- See instructions on the placement of non contact sensors for each type of application.

4.1 - Follow instructions

Always follow all instructions included in this manual to ensure safety and the longevity of the operator.

4.2 - Intended usage

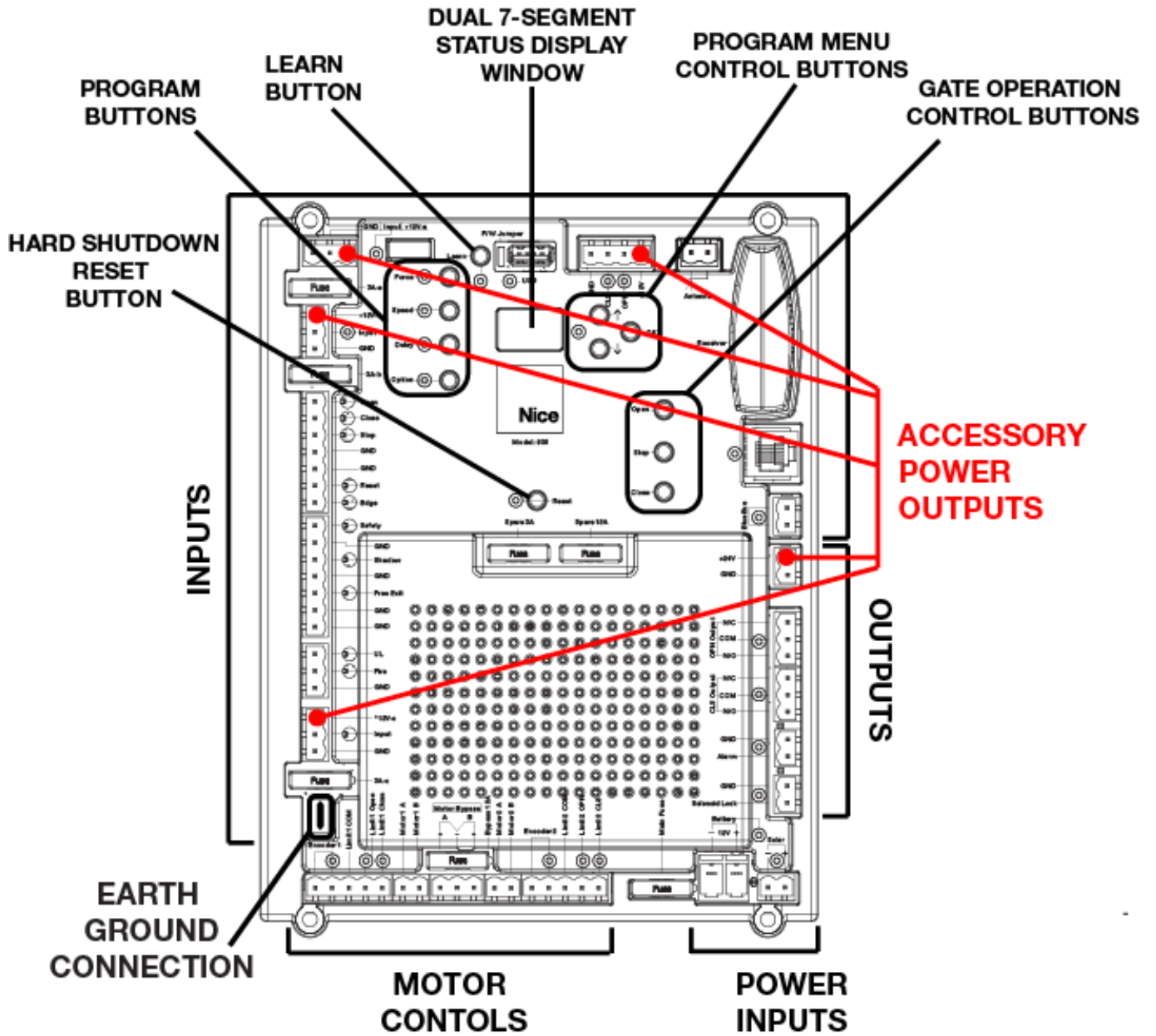
THIS CIRCUIT BOARD IS INTENDED FOR USE WITH VEHICULAR SWING AND SLIDE GATES ONLY.

4.3 - Warnings, cautions and notes

- 4.3.1 Gate terms "system", "gate operator", "gate system", and "gate operator system" for these warnings, cautions, and notes is intended to cover the gate controller, gate controller software, the gate actuator, and all safety accessories included within a typical installation.
- 4.3.& Gate system designers, installers and users must take into consideration the inherent hazards associated with each installation, since no two installations will be exactly alike.
- 4.3.' Improperly designed, constructed, installed or maintained systems can and may introduce hazards which may or may not be readily seen or identified by users, bystanders, installers or inspectors.
- 4.3.(All pinch points must be guarded or eliminated.
- 4.3.5 Only install this gate system opener in appropriate manners in which the operation is safe and secure.
- 4.3.6 A gate operator exerts a great amount of force in order to move the gate system in normal operation, therefore appropriate safety sensors, measures, notices and appropriate safety features must be incorporated in all installations.
- 4.3.7 The gate must be installed correctly and no binding or resistance should be present throughout its movement in either direction.
- 4.3.8 The gate system must be installed in an area and in such a manner in which the gate has sufficient clearance to open, close and move without striking or contacting any structures and/or other obstructions.
- 4.3.9 The gate system is designed for vehicular traffic only, and should never, under any situation be used for pedestrian traffic.
- 4.3.10 Pedestrian prohibited signs, warning signs or other suitable measures must be used at minimum, to warn pedestrians to stay away from, and to not use this system under any circumstances.
- 4.3.11 Pedestrians should be encouraged to use a pedestrian entry/exit only.
- 4.3.12 Pedestrians should never cross the path of a moving gate. The sensors are designed to prevent contact with a vehicle and are not necessarily capable of preventing contact with a pedestrian. Care should be take to prevent pedestrian usage under any circumstances.
- 4.3.13 One or more non-contact sensors must be used in any situation or area where entrapment may have the possibility of occurring.
- 4.3.14 Gates shall be constructed in accordance with the provisions given for the appropriate gate type listed, refer to ASTM F2200 for additional gate types.
- 4.3.15 Any existing manual gate latches shall be removed or disabled when an automatic gate system is installed. Use only solenoid-locks controlled by the system.

- 4.3.16 Protrusions shall not be permitted on any gate, refer to ASTM F2200 for exceptions, if any.
- 4.3.17 Gates shall not be designed, constructed and installed in such a manner that gravity will cause or initiate movement in any direction whether the operator is attached or not.
- 4.3.18 A pedestrian gate shall not, under any circumstances, be attached to, or incorporated into, any vehicular gate system in manner. This also applies to any fence or wall, or any portion thereof, that the gate may cover in the open or closed position.
- 4.3.19 Any non automated gate that is to be automated in any manner should be upgraded to conform to the provisions contained within the provisions of this document and ASTM F2200 as applicable.
- 4.3.20 To reduce the risk of severe injury or death please read and understand this entire manual and your local code requirements prior to starting installation. Additionally, understanding the ASTM standards will assist you in the proper assembly, installation and operation of your gate opening system.
- 4.3.21 Disconnect all electricity and/or all sources of power before performing any maintenance.
- 4.3.22 To reduce the risks of fire or injury always contact the installer or distributor prior to performing any repairs or maintenance.
- 4.3.23 Never operate gate with obstructions present.
- 4.3.24 No one should ever cross the operative path of the gate.
- 4.3.25 Never let children play or linger in the vicinity of the gate or operator equipment.
- 4.3.26 Never operate the gate or the opener when the opener is not operating or adjusted correctly.
- 4.3.27 Never allow children to play with or manipulate gate controls. Keep all remotes away from children.
- 4.3.28 Only use the MANUAL RELEASE when gate is completely stationary. Untrained persons should never touch the gate or any releases if any are installed or applicable.
- 4.3.29 Test the gate operator periodically (once every 6 months minimum). Gate must reverse course or stop immediately upon contact with any object in its path. Gate must stop and reverse course if any object or other item crosses the path of the gate. Should the safety sensors not stop and/or reverse the gates travel, immediately investigate and repair the inoperative condition. Gate should not be used under any circumstances, if all sensors and safety devices are not performing to standards illustrated within this manual.
- 4.3.30 Gate should not be used if safety devices are not performing to all local, state and federal guidelines.
- 4.3.31 Replace fuse only with fuse of same type and rating.
- 4.3.32 Installation of this gate system in a manner inconsistent with the manufacturer's recommended instructions, local, State or Federal law transfers the liability unto the installer. Careful consideration has been taken by the manufacturer to devise safe measures, safe design and incorporate safety measures to prevent injury, death or property damage. By circumventing, ignoring or modifying any safety system or the exclusion thereof, the installer is creating a new untested process outside the purview of the manufacturer and therefore assumes all risk.
- 4.3.33 This unit is not to be installed on any gate, door or other structure which serves to block, secure, close off or otherwise control a pedestrian entry point or access point.
- 4.3.34 Vehicular swing gates shall be designed, constructed and installed in accordance with security related parameters specific to the application in question, with absolute safety in all considerations.
- 4.3.35 Never mount any device that operates the gate opener where the user can reach around, over or through the gate to operate the controls. Controls should be mounted at minimum, 8 feet away from any moving part of the gate or gate system.
- 4.3.36 A hard wired control shall be located in such a manner so that electronic communication between the hard wired control and the gate operator is never interrupted or the wires damaged.
- 4.3.37 Any controls used to reset the device after obstruction/entrapment protection incidents should be located within view of the gate and should have safety features that prevent unauthorized use.
- 4.3.38 Never allow anyone to ride, hang on or otherwise touch the gate.
- 4.3.39 Safety sensors must be present at all times. The hard wired safety sensors must be arranged and installed in such a manner so that the communication between gate operator and sensor(s) are never interrupted or severed by mechanical damage or movement. All items which have sensors or safety devices installed must be constructed or installed in such a manner so as to prevent removal or damage. All subsequent sensors must be suitable for the system installed and approved for use.
- 4.3.40 Never increase the force used to move the gate, beyond the absolute minimum required.
- 4.3.41 Never use force adjustments to compensate for binding, sticking or resistant operation. These situations should be addressed and corrected before installation of the gate operator. Gate systems should swing freely in all directions prior to installation of this gate operator.
- 4.3.42 After any adjustment is made, all safety modes/features must be tested. Gate must stop or reverse upon any object crossing the path of the gate or the gate comes into contact with any object.
- 4.3.43 Activate gate only when the gate is in clear view of the user, the gate system is properly adjusted, tested and verified, and there are no obstructions present.
- 4.3.44 Keep gate and gate system properly maintained and properly inspected at all times.
- 4.3.45 This operator is intended for installation only on swing and slide gates used to control vehicular traffic.
- 4.3.46 The gate must be installed in a location so that sufficient clearance is provided between the gate and adjacent structures when opening and closing to reduce the risk of entrapment.
- 4.3.47 The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
- 4.3.48 Install the gate operator only when the operator is appropriate for the construction and the usage class of the gate.
- 4.3.49 Controls must be far enough from the gate so that the user is prevented from coming in contact with the gate while operating the controls. Controls intended to be used to reset an operator after two sequential activations of the entrapment protection device(s) must be located in the line of sight of the outdoor gate or easily accessible controls shall have a security feature to prevent unauthorized use.
- 4.3.50 All warning signs and placards must be installed where visible in the area of the gate.
- 4.3.51 Care shall be given to reduce the risk of nuisance tripping such as when a vehicle trips the sensor while the gate is still moving.
- 4.3.52 A hardwired contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate operator is not subject to mechanical damage.
- 4.3.53 A wireless contact sensor such as one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions are recommended.

Figure 5.1 - Contol Board Overview



6 - WIRING

6.1 - Power input connections

Power input connections should be wired as follows:

Solar panel

Connect wires to the solar panel terminal block. The positive wire of the panel connects to the right terminal marked “+”.

Note: The indicator light above the terminal block will illuminate red if connected with incorrect polarity. If solar power is to be used it will be necessary to program control board for STANDBY operation. See section 8.2.5 for information on STANDBY mode.

Battery - This terminal block is for incoming 12VOLT BATTERY power only!

Connect wires to the Battery terminal block. The positive lead of the power supply connects to the right terminal marked “+”.

Note: If supply is connected backwards the indicator light to the right of the terminal will illuminate red. If supply is connected properly the light will illuminate green. (See diagram below)

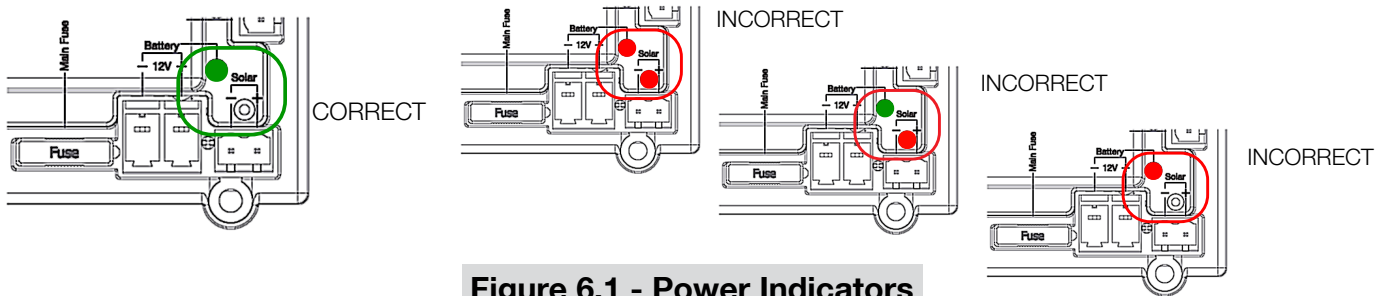


Figure 6.1 - Power Indicators

6.2 Operator wiring diagrams

6.2.1 - 912L / T5 / T7

Figure 6.2 - 912L / T5 / T7 Wiring

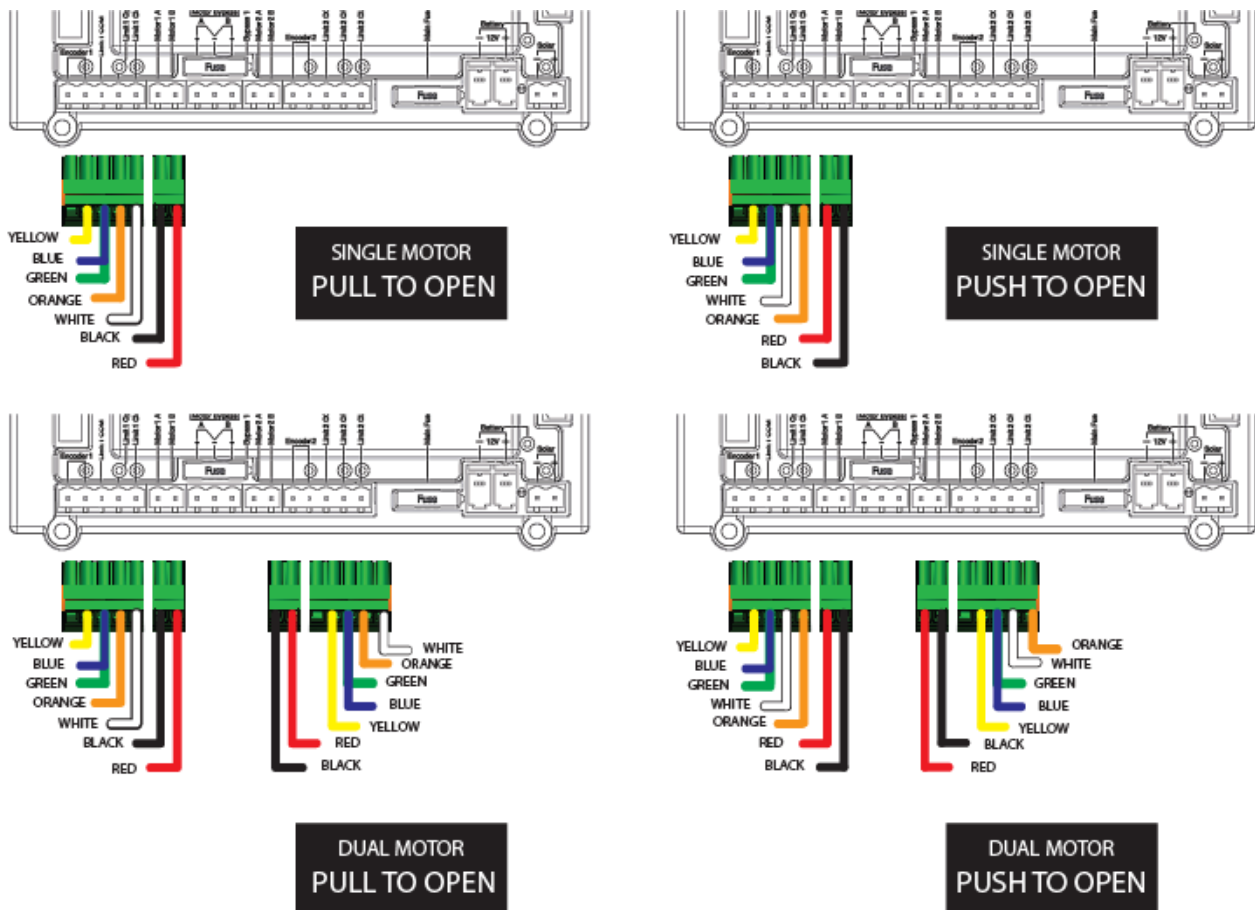


Figure 6.3 - 816 Wiring

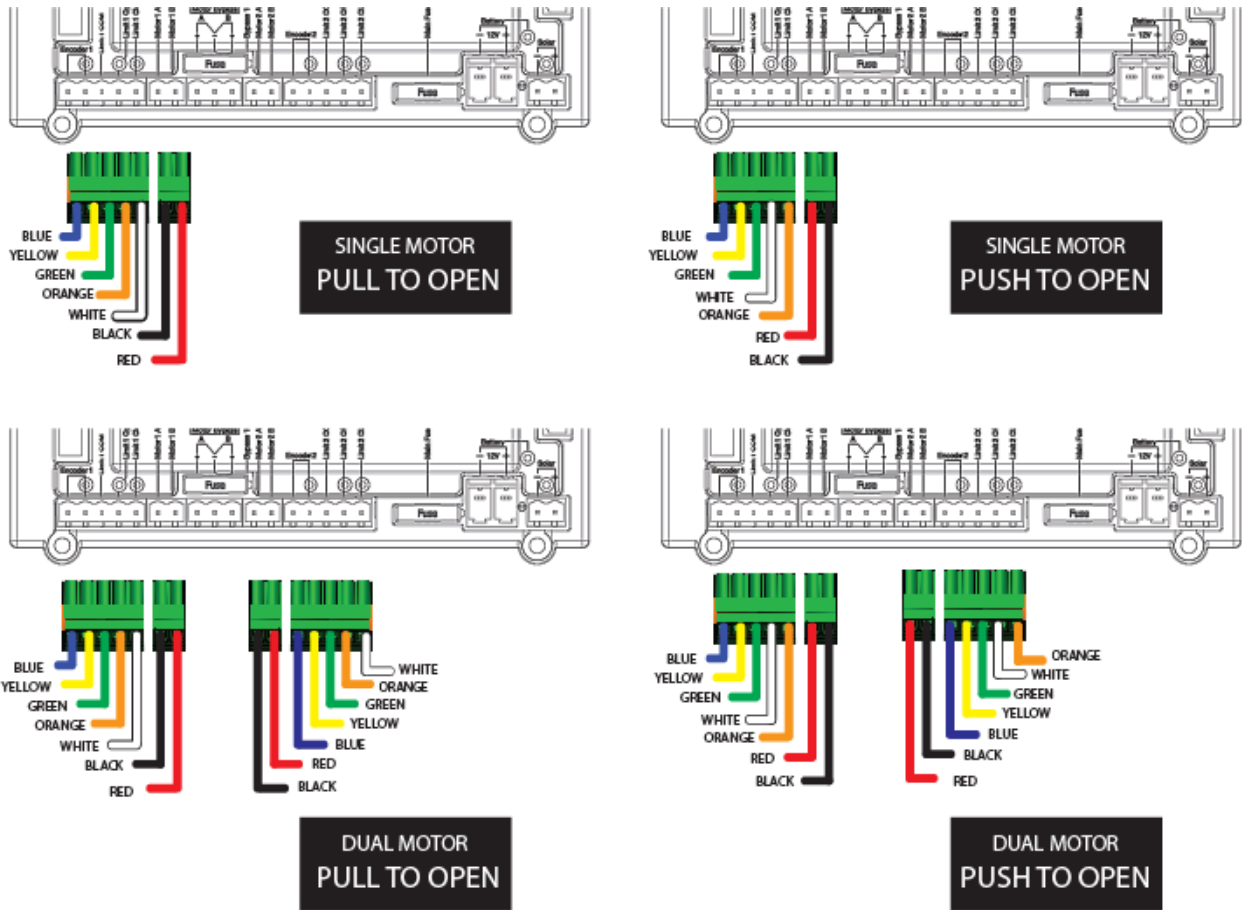
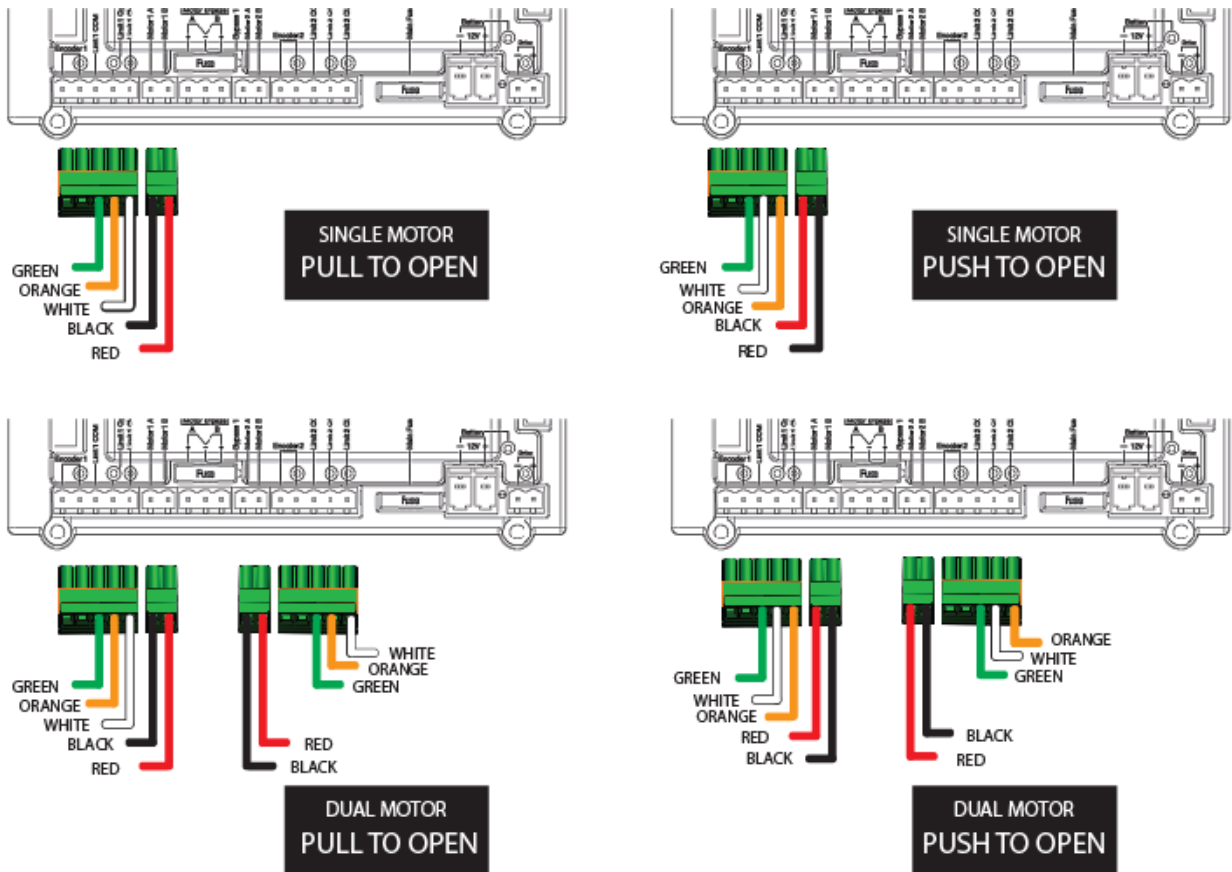


Figure 6.4 - 416 Wiring



7 - SET-UP

7.1 - Power-up Condition

For the following power-up sequence to occur at least one (1) type B1 Non-contact sensor (monitored photo-eye) needs to be connected to the appropriate board input. This can be done by means of connecting Nice brand BlueBus MOFB, EPMB, EPLB, EPMOB and/or EPLOB device directly to the designated BlueBus terminal. Or, a monitored, pulse-mode (300 Hz) safety device can be connected to either Input 'a' or input 'c'. If a non-BlueBus device is being used please refer to section 8.2.8 or 8.2.9 for programmability.

***Note** - If no such sensor is attached to the board during power up, the display will read 'E1' following the BlueBus search (Flashing bb). Once the sensor is connected you can cycle power to the board or press and release the Learn button to reinitiate a BlueBus search.

- 1) Plug in battery power cable
- 2) Firmware Version is displayed in the LCD status display window for three (3) seconds
- 3) BlueBus scan is performed (bb is seen flashing in the status display window once per second)
- 4) The display window following the BlueBus scan should be flashing "Lr" indicating the board is in the POSITION LEARN CONDITION.

*** Note** - If this is not the display seen, pressing and holding the reset button for approximately 10 seconds will result in "Fd" being displayed and the board will return to factory default conditions.

7.2 - Setting the limit switches

***Note** - If a Nice brand remote will be used with this board, see Sec. 10 now for programming.

OPEN LIMIT

- 1) Using the on-board Open button or button #1 on the Nice remote, hold the button down until the gate reaches the fully intended open position.

***Note** - If the gate moves in the closing direction reverse the red and black motor wires.

***Note** - If the open limit activates before the fully intended open position, adjust the limit on the operator and repeat step 1.

- 2) Once the gate is in the fully intended open position, adjust the the OPEN LIMIT switch *on the gate operator* (consult operator manual) until the RED light labeled, "Limit 1 Open" ("Limit 2" if using motor 2) illuminates (see below).

The OPEN limit is now set.

***Note** - If the "Limit 1 Close" light illuminates, reverse the orange and white limit wires. Once the "Limit 1 Open" light is seen in the fully intended open position proceed to the CLOSED LIMIT section .

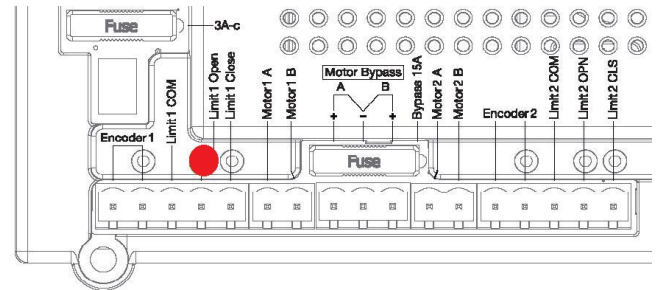


Figure 7.1 - Open Limit Indicator

CLOSE LIMIT

- 1) Using the on-board Close button or button #2 on the Nice remote, hold the button down until the gate reaches the fully intended closed position.

***Note** - If the close limit activates before the fully intended closed position, adjust the limit on the operator and repeat step 1.

- 2) Once the gate is in the fully intended closed position, adjust the the CLOSED LIMIT switch *on the gate operator* (consult operator manual) until the RED light labeled, "Limit 1 Closed" ("Limit 2" if using motor 2) illuminates (see below).

The CLOSED limit is now set.

***Note** - If the "Limit 1 Open" light illuminates, reverse the orange and white limit wires. Once the "Limit 1 Close" light is seen in in the fully intended closed position, proceed to Learn Procedure.

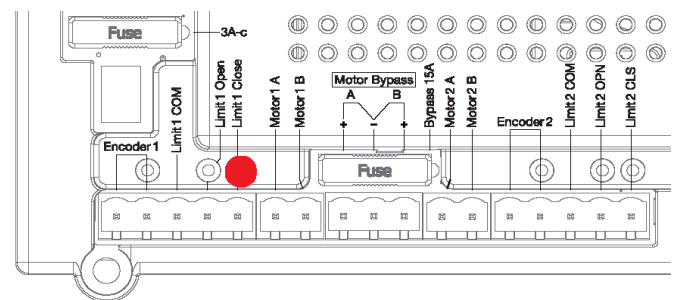


Figure 7.2 - Close Limit Indicator

7.3 - Position learn condition

The following conditions apply before the learn procedure has been completed.

- * For Dual motor application Motor 1 and Motor 2 output are synchronous and will run as such in the Learn cycle.
- * Either Motor 1 or Motor 2 ports may be used in a single operator application.
- * Solenoid lock output is active during any hold to run operation.
- * Standby mode (default enabled) will power down board after 120 s (2 min) of inactivity. This sleep timer will switch to 20 s after learn procedure is complete
- * Operational functionality is limited to the following:
 - On-board control station
 - Open - Hold to open
 - Close - Hold to close
 - Nice OXI/A radio receiver
 - Channel 1 - Hold to open
 - Channel 2 - Hold to close

LEARN PROCEDURE

***Note** - Motor direction must be verified and limits must be adjusted before initializing the learn procedure.

- 1) Press and hold the Learn button until "Lr" displays solid in the display window.
- 2) While "Lr" can be seen in the display window, release the Learn button then press and release the OK button
 - * If the chasing cursor display is not seen, repeat steps 1 & 2.
- 3) Once steps 1 & 2 are completed the Learn cycle has been initialized and the following actions (3a - 3e) will occur.
IF YOU PRESS STOP AT ANY POINT BEFORE THIS LIST OF ACTIONS IS COMPLETE, THE BOARD WILL RETURN TO THE POSITION LEARN CONDITION
 - 3a - Motor attempts to run in open direction for 2 seconds
 - * If open Limit is active or activated during this period, motor will run in close direction for 2 seconds.
 - 3b - Motor will run, at reduced speed, in the close direction until the close limit is activated.
 - 3c - Motor will run, at reduced speed, in the open direction until the open limit is activated.
 - 3d - Motor will run in the close direction at full speed
 - 3e - Motor will slow to reduced speed after 85% of the close cycle travel is complete and run at this reduced speed until the close limit is activated.
- 4) The Learn procedure is now complete and the status display should read "CL" signifying the close limit is active.

8 - PROGRAMMABLE SETTINGS

8.1 - Primary programming operations

The following order of operations apply to programming Force, Speed and Delay.

1. Press and release the particular program button for the setting you desire to change.
2. Observe the correct status display indicator.
3. Current parameter value will display following the indicator.
4. Use up or down arrows as needed to select the desired value.
5. Press and release the OK button.
6. Display returns to Current Status

8.1.1 Force (Current Sensitivity) FC

Setting applies to both static and dynamic current sensitivity.

Setting Values:

- 1 Very Sensitive
- 2
- 3 Average (default)
- 4
- 5 Very Strong

8.1.2 SLOWDOWN SP

Setting controls both acceleration and deceleration. The setting will be the percentage of reduced speed travel occurring at the beginning of an open cycle and the end of a close cycle.

Setting Values:

- 1 - 5%
- 2 - 10%
- 3 - 15% (default)
- 4 - 20%
- 5 - 25%

8.1.3 AUTOCLOSE AC

Automatic close timer. Activated with open limit engagement. Input command(s) reset this timer. Constant commands suspend this timer indefinitely. Fire input will disable this timer until a second fire input is given at which time the timer will resume.

Setting Values:

- 0 disabled (default) - 90 seconds

8.2 - Secondary programming operations

THE BELOW STEPS ARE FOLLOWED FOR ALL OPTION TREE ITEMS EXCEPT FOR BLUEBUS SCAN

1. Press and release the Option button.
2. The status window will read "bb" to signify the first option available.
3. Using the down arrow to start, the options menu can be navigated using the up and down arrow buttons according to the diagram below.
4. Once the status window reads the designator for the option you want to change, press and release the OK button.
5. The option's current value will now be displayed in the status window.
6. Using the up and down arrow buttons as needed adjust for the value you want.
7. Once the value you want is displayed in the status window, press and release the OK button.
8. The status display window will now show the designator for the option just adjusted.
9. If you want to adjust additional options follow steps 3 - 8 for each option needing adjustment.
10. If you would like to exit the options menu at any time, press and release the stop button.

* **Note** - The options menu will time-out after 10 seconds of inactivity and the status display will read the current status of the system.

bb	BlueBus
↕	
bP	Bi-Parting Delay
↕	
RA	Run Alarm
↕	
RC	Radio Channel
↕	
Sb	Standby
↕	
SC	Gate Sync
↕	
SL	Solenoid Lock
↕	
P1	Input 'c' Programmable Monitoring
↕	
P2	Input 'a' Programmable Monitoring
↓	
--	

* **Note** - If the "--" current status designator is visible in the display window the options menu has been exited.

8.2.1 - BlueBus Scan:

Initiates an internal scan which clears any previous BlueBus devices in memory and adds any devices currently detected.

1. Press "OPTION"
2. The display will show "bb"
3. Press "OK"
4. "bb" will flash in the display window for approx. 8-10 seconds.
5. This first scan is to establish connection or disconnection of any monitored BlueBus device.
 - a. If a Bluebus device has been added or removed from the board the user will see "E-1" flashing in the display window following the flashing "bb". Proceed to item 6.
 - b. If no change has been made i.e. devices have not changed, been added or removed, the display will return to the current status display. No further action needed for normal operation.
6. If the "E-1" flashing display is present the user will need to press and release the learn button at this point. This action will clear any previous devices and/or add any current devices.
7. "bb" will again flash in the display window for approx. 8-10 seconds.
8. Display will now return to the current status display.

A BlueBus scan is also conducted automatically during board power-up. This scan differs slightly from the procedure described above, consisting only of steps 1-3 in section 7.1 Power-up Condition.

8.2.2 - Bi-Parting Delay:

Enables overlapping dual gates to dovetail smoothly by creating a momentary delay for Motor 2 when opening and Motor 1 when closing.

* **Note** - Two motors must be learned for this setting to be enabled.

Setting Values in seconds:

0 Disabled (default)

1

2

3

4

5

8.2.3 - Run Alarm :

Controls the Alarm output port for conditions other than obstruction

Setting Values:

0 - Disabled (default)

1 - Alarm output active for 4 seconds prior to motor output in both directions.

2 - Alarm output active for 4 seconds prior to and during motor output in both directions.

8.2.4- Radio Channel:

Allows the user to determine Nice OXI/A transmitter channel operation.

Setting Values:

- 1 - Ch.1 = Step | Ch.2 = No Program (default)
- 2 - Ch.1 = No Program | Ch.2 = Step
- 3 - Ch.1 = Step | Ch.2 = Toggle/Latch

8.2.5 - Standby:

Allows the user to enable or disable the control board's reduced power state.

Setting Values:

- 0 - Disabled
- 1 - Enabled (default)

Standby activates after 20 seconds of idle operation. This time extends to 120 seconds in the unlearned state.

8.2.6 - Gate Sync:

Allows the user to decrease the cruising voltage of the motor output with lesser run time to match the overall runtime of the motor output with greater travel, thereby synchronizing limit activation in both directions

- * **Note** - Two motors must be learned for this function to be enabled

Setting Values:

- 0 - Disabled (default)
- 1 - Enabled

8.2.7 - Solenoid Lock:

Enables the Solenoid Lock output port

- * **Note** - When enabled, Lock output is active for four seconds when any Open command is given. When enabled, Motor output is delayed for one second prior to the Open cycle.

Setting Values:

- 0 - Disabled (default)
- 1 - Enabled

8.2.8 - Input 'c' Programmable Monitoring

Allows the user to determine the specific protection functionality of a monitored, pulse-mode (300Hz), non-bluebus safety device.

Setting Values:

- 0 - Non monitoring step-by-step input (default)
- 1 - Monitoring safety protection input
- 2 - Monitoring entrapment protection input

8.2.9 - Input 'a' Programmable Monitoring

Allows the user to determine the specific protection functionality of a monitored, pulse-mode (300Hz), non-bluebus safety device.

Setting Values:

- 0 - Non monitoring step-by-step input (default)
- 1 - Monitoring safety protection input
- 2 - Monitoring entrapment protection input

9 - ACCESSORY INPUTS AND OUTPUTS

9.1 Accessory Power Outputs

24VDC:

+24V

This terminal is an internally fused (0.3A) output for external 24 volt accessories.

- ***Note** - In standby, this terminal voltage is inactive. DO NOT USE TO POWER ENTRY/EXIT DEVICES.

12VDC:

+12V-a, +12V-b and +12V-c

Each of these terminals provides 3A externally fused 12V power, available in standby as needed. Each port includes a terminal for step-by-step input.

+12V

This terminal provides internally 150 mA fused 12V power. Dedicated open and close command inputs are available.

- ***Note** - In standby, this terminal voltage is inactive. DO NOT USE TO POWER SAFETY DEVICES.

9.2 Inputs

Open Input:

Normally Open (NO) dry contact input. When shorted to "GND" opens gate to open limit.

Close Input:

Normally Open (NO) dry contact input. When shorted to "GND" closed gate to close limit.

Stop Input:

Normally Closed (NC) dry contact input. In the absence of a 3-button station this input needs to be shorted to "GND".

Reset Input:

Normally Open (NO) dry contact input. When shorted to "GND" resets a hard shutdown condition.

Edge Input:

Normally Open (NO) dry contact input that stops a moving gate, momentarily reverses the gate and then stops the gate.

Safety Input:

Normally Open (NO) dry contact input that stops a closing gate and re-opens the gate.

Shadow Input:

Normally Open (NO) dry contact input that prevents a fully closed gate from opening, prevents a fully open gate from closing, stops and reverses open a closing gate and resets the auto-close timer (if activated).

Free Exit Input:

Normally Open (NO) dry contact input that opens the gate from the closed position, reverses a closing gate and holds the gate in the fully open position until the free exit input is deactivated.

9.2 Inputs (Cont.)

UL Input:

Normally Open (NO) dry contact input that stops a moving gate to prevent an entrapment condition. Two successive activations of this input will create a hard shutdown condition. This condition requires a hard shutdown reset command be given to the 936 board before further usage.

Fire Input:

Normally Open (NO) dry contact input for use as a Fire Department control switch that opens and holds gate open until the fire input is removed.

BlueBus :

2-wire non-polarized connection to Bluebus enabled accessories. Provides monitored sensor input.

Receiver Port for Nice OXI/A :

This is a direct plug in for Nice OXI/A radio receiver. (See Secs. 8.2.4 and 9.1)

Antenna :

Attachment point for external antenna to improve Nice receiver sensitivity if necessary.

USB:

Type A receptacle and jumper pins (marked "F/W Jumper" for in field software updates.

9.3 Outputs:

Open Output:

Dry contact relay output (SPDT), with Normally Open (NO), Normally Closed (NC) and common connections. Active during open cycle and open limit activation.

Close Output:

Dry contact relay output (SPDT), with Normally Open (NO), Normally Closed (NC) and common connections. Active during close cycle and close limit activation.

Alarm Output:

Internally fused (0.5A) output to power alarm accessories. Fully programmable output. (See Sec. 8.2.3)

Solenoid Lock Output:

Internally fused (1.85A) output to power solenoid lock. Fully programmable output. (See Sec. 8.2.7)

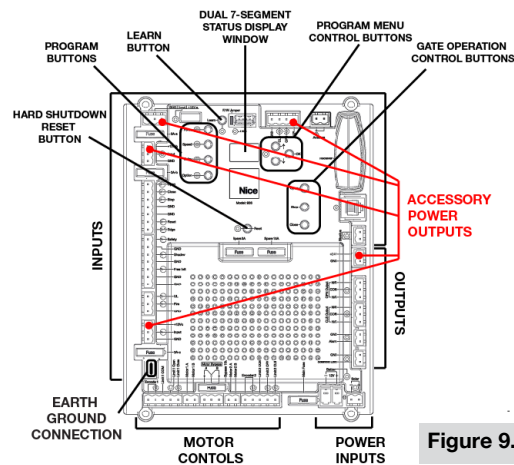


Figure 9.1 - Control Board I/O

10 - ACCESSORY PROGRAMMING

10.1 Bluebus Accessories:

MOTB: Moon Touch programmable keypad with secure codes (up to 9 digits per code if required) to control gate opening and closing. Connects to the 2-wire BlueBUS connector with inexpensive unshielded twisted-pair wire.

MOFB: Photocell transmitter and receiver pair that connects to the 2-wire BlueBUS connector with inexpensive unshielded twisted-pair wire and is a non-contact sensor for entrapment protection as specified in UL325, Section 31.1 "General Entrapment Protection Provisions".

10.2 Programming the plug-in receiver and remote(s):

Plug-in Receiver: The receiver includes built-in programming functions for adding or removing Nice wireless remote controls to/from a gate installation. The following procedures detail the steps to assign a remote control, add a new remote control, delete a single remote control or remove all remote controls from the receiver memory.

Programming the Nice 2-Button or 4-Button Remote Control with the Nice Plug_In Receiver

These procedures apply to the Nice wireless remote control. These procedures assign factory default controls automatically to the remote control.

1. Have a functioning Nice 2-button or 4-button remote control with a battery installed prior to programming the remote control.
2. Press and hold the button on the side of the Nice receiver until the led illuminates green on the Nice receiver, then release the button.
3. Within 10 seconds, press and hold any key on the Nice remote control until the led in the Nice receiver blinks green 3 times, indicating that the Nice is programmed to control the receiver.
4. After the led on the Nice receiver blinks green 3 times, another 10 second interval is started to program another Nice remote control if desired. Repeat step 3 to program the additional Nice remote control. Step 3 may be repeated as many times as necessary to program all available Nice remote controls.
5. Verify that the Nice remote control(s) can control the gate by pressing one or more buttons individually on the remote control(s).

Deleting a Single Nice Remote Control from the Nice Plug-In Receiver Memory:

A Nice remote control that has been programmed to control a Nice receiver may be removed from the Nice receiver memory without affecting other assigned remote controls. This procedure needs to be performed at the Nice Plug-In Receiver with the affected Nice remote control.

1. Press and hold the button on the side of the Nice receiver until the led on the Nice receiver illuminates green and keep the button pressed. The led will illuminate after approximately 4 seconds.
2. Press and hold any button on the Nice remote control until the led on the Nice receiver blinks 5 green flashes
3. Release the button on the side of the Nice receiver.
4. It is recommended to verify that the de-programmed Nice remote control no longer controls the gate.

11 - DISPLAY AND INSPECTION

11.1 Status Display Outputs

LF	FLASHING	Signifying board is in the unlearned state (factory setting).
LF	SOLID	Signifying the learn button has been pressed and the board is ready to begin the learn cycle. Pressing OK while this is displayed begins the learn cycle.
□	FLASHING	This "chasing cursor" display is seen ONLY in the unlearned condition. This signifies motor activation and subsequent motion of the gate.
OP	SOLID	Signifies the open limit is activated.
CL	SOLID	Signifies the closed limit is activated.
--	SOLID	Signifies the system is in an idle state (no motor activation) with neither the open or close limit activated.
AL	FLASHING	Signifies a hard shutdown condition is active. This display can be cleared once obstruction is removed and path is clear for motion, by pressing the reset button.
E1	FLASHING	Signifies a Bluebus device scan error or no monitored sensor attached. This can be cleared by pressing the Learn button once the proper monitored sensor is in place.
E2	FLASHING	No Actuator(s) sensed during first phase of learning. This can be cleared by ensuring the actuator is plugged in properly and removing then replacing power to the board.
E3	FLASHING	External EEPROM failed read/write test.
E4	FLASHING	Actuator encoder dropped out or failed during gate movement. This can be cleared by pressing any button. If the error displays again, the encoder may be faulty or the wiring may be incorrect.

11.2 Points for Routine Inspection

Proper inspection of all equipment is required to ensure continuous functionality, safety and to ensure reliable operation in all weather conditions. Inspect electrical assemblies and wiring installations for damage, general condition, and proper functioning to ensure the continued satisfactory operation of the electrical system. Adjust, repair, overhaul, and test electrical equipment and systems in accordance with the recommendations and procedures in the gate operator system and/or component manufacturer's maintenance instructions. Replace components of the electrical system that are damaged or defective with identical parts, with manufacturer's approved equipment, or its equivalent to the original in operating characteristics, mechanical strength, and environmental specifications. A partial list of suggested problems to look for and checks to be performed are listed below:

- 11.2.1 Damaged, discolored, or overheated equipment, connections, wiring, bearing caps and installations.
- 11.2.2 Excessive heat or discoloration at high current carrying connections. (look for bluing or heat affected metal).
- 11.2.3 Misalignment of electrically driven equipment. (Causes strain on pulley assemblies and bearings).
- 11.2.4 Poor electrical bonding (broken, disconnected or corroded bonding strap) and grounding, including evidence of corrosion.
- 11.2.5 Dirty equipment and connections. Clean equipment and connections.
- 11.2.6 Improper, broken, inadequately supported equipment, wiring and conduit, loose connections of terminals, and loose ferrules.
- 11.2.7 Poor mechanical or weld joints. Broken welds.
- 11.2.8 Condition of circuit breaker and fuses. Ensure that they are of the correct type and amperage.
- 11.2.9 Insufficient clearance between exposed current carrying parts and ground or poor insulation of exposed terminals. All exposed connections must be covered (prevent arcing between exposed parts, and shock).
- 11.2.10 Broken or missing wire, connectors, etc.
- 11.2.11 Operational check of electrically operated equipment such as motors, inverters, generators, batteries, lights, protective devices, etc. Ensure proper functionality of all systems during inspections.
- 11.2.12 Ensure safety placards and warning signs are present as specified within this document. Ensure proper functionality of all safety devices as specified. Non- functioning or malfunctioning safety devices should be replaced immediately.

12 - GENERAL LAYOUT

12.1 Swing gate

Entrapment Protection Inputs - Typical Installation Diagram Utilizing Loop Sensors and Photocells

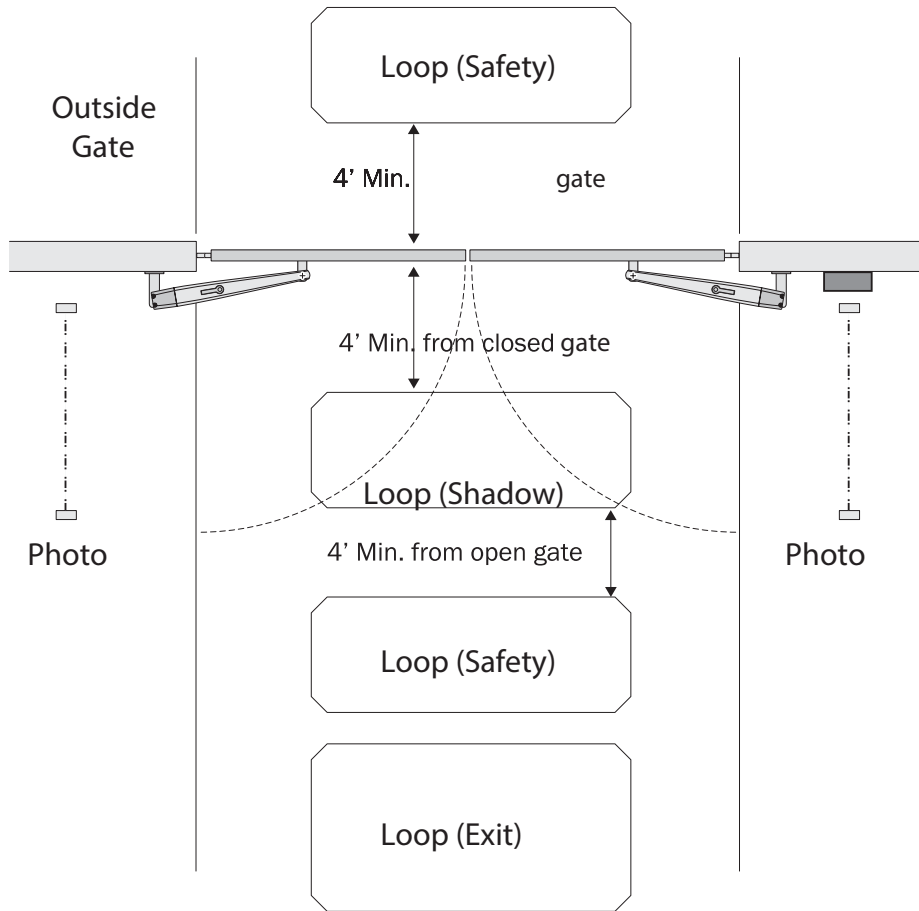


Figure 12.1 - Layout for In-Ground Loops

Entrapment Protection Inputs - Typical Installation Diagram Utilizing Photocells

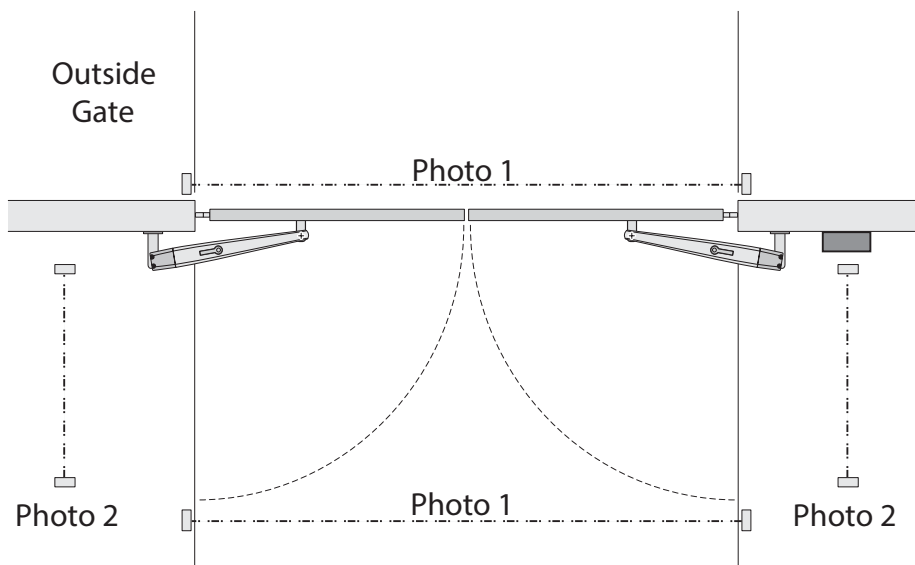


Figure 12.2 - Layout for Photocells

13 - ACCESSORIES AND SENSORS

13.1 External Entrapment Protection:

- Non-contact and contact sensors must be installed individually or in combination with each other to provide external entrapment protection.
- Care should be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate is still moving, and 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.
- A hardwired contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate operator is not subjected to mechanical damage.
- A wireless contact sensor such as 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.

13.2 During Installation:

- DISCONNECT POWER at the control panel before making any electric service power connection.
- Be aware of all moving parts and avoid close proximity to any pinch points.
- Know how to operate the manual release.
- Adjust the unit to use the minimum force required to operate the gate smoothly even during mid-travel reversing.
- Place controls a minimum of 8 feet away from the gate so that the user can see the gate and operate controls but cannot touch the gate or gate operator while operating the controls.
- Warning signs must be placed on each side of the gate or in high-visibility areas to alert of automatic gate operations.



14 - EMERGENCY VEHICLE ACCESS

- 14.1** The automatic vehicular gate system must be designed to allow access to emergency vehicles under different operating conditions.
- 14.2** During normal powered operation, emergency vehicles access the gate by use of the emergency vehicle access device installed on your gate system. The type of device that is used in your community is dependent on your city codes. These devices may include (but are not limited to) Fire Department lock boxes, Click-2-Enter radio receivers, strobe light sensors, siren sensors, etc.
- 14.3** Check with your installer to determine if your gate system is equipped with a back-up power system. In the event of a primary (AC) power failure and a back-up system (DC) power failure (low charged or dead batteries for example), the system must have a release system to allow the gate to be manually operated. The release device must be accessible from either side of the gate and must be present so that emergency personnel can gain access through the gate under this condition.
- 14.4** If applicable, this system is equipped with a manual release system that will allow the gate to be pushed open in the event of a power outage or equipment failure.
- 14.5** NOTE: Never attempt to manually push open any gate with an operator attached to it until you have verified that power to the operator has been shut-off.
- 14.6** The automatic vehicular gate system must be designed to allow access to emergency vehicles under different operating conditions.
- 14.7** In the event of a power failure, the emergency vehicle access device may not be functional because the gate operator is not powered. NOTE: DC powered back-up systems are optional and your gate system may or may not be equipped with one. Check with your installer to determine if your gate system is equipped with a back-up power system.
- 14.8** For manual fail-safe gate operation, turn power to the operator OFF. If a backup power system is in use, be sure that this power is turned OFF also or disconnected. Once power is OFF, the gate can be manually operated, by using the MANUAL RELEASE handle under the key lock (T5X1K/T7X1K), using the supplied key and turning the release lever (H12), using the supplied key and disengaging the release mechanism (M12), removing the cover and disengaging the manual release mechanism (7200/7300), or disconnecting the gate attachment bracket (416X1K/816X1K).

15 - GLOSSARY

COMMERCIAL / GENERAL ACCESS VEHICULAR GATE OPERATOR-CLASS II - 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), hotels, garages, retail store, or other building servicing the general public.

ENTRAPMENT - The condition when an object is caught or held in a position that increases the risk of injury.

GATE - A moving barrier such as a swinging, sliding, raising, lowering, or the like, barrier, that is a stand-alone passage barrier or is that portion of a wall or fence system that controls entrance and/or egress by persons or vehicles and completes the perimeter of a defined area.

INHERENT ENTRAPMENT SENSOR SYSTEM - An automatic sensor system which senses entrapment of a solid object and is incorporated as a permanent and integral part of the operator.

INDUSTRIAL / LIMITED ACCESS VEHICULAR GATE OPERATOR-CLASS III - 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.

RESTRICTED ACCESS VEHICULAR GATE OPERATOR-CLASS IV - 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.

RESIDENTIAL VEHICULAR GATE OPERATOR-CLASS I - A vehicular gate operator (or system) intended for use in a home of one-to four single family dwelling, or garage or parking area associated therewith.

STEP BY STEP - Command that opens-stops-closes-stops the gate with each press of the button.

SYSTEM - In the context of these requirements, a system refers to a group of interacting devices intended to perform a common function.

WIRED CONTROL - A control implemented in a form of fixed physical interconnections between the control, the associated devices, and an operator to perform predetermined functions in response to input signals.

WIRELESS CONTROL - A control implemented in means other than fixed physical interconnections (such as radio waves or infrared beams) between the control, the associated devices, and an operator to perform predetermined functions in response to input signals.

16 - MAINTENANCE SCHEDULE

Table 16.1

		COMPLETE	BASIC
Alarm	Active the primary (inherent) reverse system by blocking the gate with a solid object. The gate should reverse momentarily then stop. Restart the gate and block again with a solid object. The gate should reverse momentarily, then stop, and go into hard shutdown with an alarm.		
Battery	Batteries should be replaced at the lesser of either the battery manufacturer's recommended time period or when the battery is no longer capable of sustaining a charge.		
Fire Dept	Check emergency vehicle access device for proper operation.		
Gate	Inspect for damage.		
Reverse System	Check that the gate reverses on contact with an object in both the opening and closing cycles.		
Loop(s)	Check vehicular reverse and shadow loops for proper operation.		
Release	Check manual release for proper operation.		
Complete	Overall Check: Complete check of gate and gate operating system.		
Mounting Hardware	Check screws and nuts.		

17 - TROUBLESHOOTING

Table 17.1

SYMPTOM(S)	POSSIBLE SOLUTION
Operator will not Power On. Power LED is OFF	Check that power to the circuit board is turned ON. Check terminal block wiring for loose or broken wires. If voltage measures OK, check the terminal block. Check the fuses (may be both AC and DC fuses in installation).
Gate opens a short distance, then stops and reverses	Check the UL/Edge input on the gate controller. Adjust Force Settings.
Gate opens but will not close	Check the input LEDs. Any ON will hold the gate open and indicates a problem with a keying device. Check the secondary safety devices. Any activated safety devices will hold the gate open and indicates a problem with the safety device. Check the loop detectors. Any activated safety devices can hold the gate open and indicates a problem with the loop detector or ground loop.
Hard Shutdown (2 back to back obstructions) LED blinking, Buzzer sounds for 5 minutes	Clear any obstructions from the path of the gate. Press RESET to clear (or hard reset button).
Gate opens by itself	Check accessory inputs and clear them as necessary.

18 - INSTALLATION CHECKLIST

Left box is for installer check off and the right box is for customer check off.

1. The gate has been checked to make sure it is level and moves freely in both directions.
2. Potential pinch areas have been guarded so as to be inaccessible OR have contact and/or non-contact obstruction sensing devices installed.
3. The installer has installed one or more contact or non-contact obstruction sensing devices, in compliance with UL325 requirements for this installation.
4. If pedestrian traffic is expected, a separate pedestrian gate has been installed, a minimum of seven feet from the gate. The customer has been informed that all pedestrian traffic must use the pedestrian gate.
5. Warning signs have been installed on each side of the gate in highly visible locations. The customer has been informed that these signs must remain at all times.
6. There are no controls installed on the gate operator, or within 8 feet of the gate.
7. The installer has properly adjusted the obstruction sensing feature and has tested the gate to make sure that the gate stops and reverses a short distance with minimal resistance applied (Approximately 40 lbs. on a swing gate, at the end of the gate).
8. The installer has instructed the customer in the proper use of the gate operator and reviewed all of the operational functions, obstruction sensing devices, warning beeper and reset, etc.
9. The installer has instructed the customer in the proper use of the operator's manual disconnect feature. The manual disconnect must never be used while the gate is in motion. The power switch must be turned off before using the manual disconnect and disengaging the operator.
10. The installer has reviewed all safety instructions with the customer, and has left the safety instructions and owner's manual for their reference.
11. The installer has answered any questions the customer has regarding the operation of the gate operator and gate operator safety precautions.
12. The installer has explained to the customer that a regular maintenance schedule for both the gate and the gate operator is recommended.

Installation Acceptance

Address where opener is located

Installer name, number and address

End user name and telephone number