INSTALLATION INSTRUCTIONS
FOR
ENTRANCE CONTROL SYSTEM

MODEL
GL-RO-3

DATE ISSUED 7/2008

GOODLIN SYSTEMS INC.

www.goodlinsys.com

CONTENTS

INTRODUCTION

The inductive loop control box (GL- RO-3) is a control box that works on the principle of metal detection. This is accomplished with the GL-RO-3 in conjunction with a coil of wires referred to as a "loop or sensor". The GL-RO-3 will work with almost any style loop. When metal enters the electrical field generated by the loop, the detector (supplies the power to the loop to generate the field) is activated to show a presence condition. This is when the relay is activated in order to turn on any number of controls or equipment.

Although the GL-RO-3 can work with many types of loops, Goodlin Systems recommends using only loops manufactured by Goodlin Systems. Our loops have been specifically designed for use with our controls, and for the most accurate measurement of vehicles. This makes the use of floor cut loops inadequate for most car wash applications.

SPECIFICATIONS

POWER INPUT: 110 VAC 60Hz

POWER OUTPUT: 24 VAC 60Hz .25 AMPS (FOR LIGHT CIRCUIT ON GL-14)

RESPONSE TIME: 200-100 milliseconds

ENCLOSURE: Size 8"W x 10"H x 6"D Type UL environmental 1,4,12, and 13 non-metallic

PRESENCE MODE: Activation upon presence of metal 15 minute hold time

OUTPUT PRESENCE RELAY: SKNP 10 Amp 24vdc coil

DETECTOR PRESENCE RELAY: SPST 3 Amp (Can be converted to second presence relay)

FREQUENCY: Three selectable frequencies. Range 25-100 kilohertz

LOOP PROTECTION: Isolation transformer allows operation with poor quality loops, including a single point, short to ground. Lightning protection: The detector can withstand a 10 microfarad capacitor charged to 1,000 volts to be discharged directly into the loop terminals, 2,000 volts with an earth ground.

ALL COMPONENTS ARE UL APPROVED

DETECTION FIELD THEORY

The detection field is like an invisible set of bubbles or lines crossing from one side of the sensor* to the other. When power is first applied, the detector remembers the way the bubble is formed. The field will only be altered or reshaped y the presence of new metal. The detector will remember and accept this new shape if it is reset; thus the sensor can be placed by metal as long as the metal stays where the detector remembers it was. Any new metal entering the field will reshape the field. It is this reshaping, or changes, that the detector will see and activate on. Also note that the closer the metal is to the sensor, the less it has to move to reshape the field. The amount of metal also has an effect on the amount of change in the field. The more metal the more change. When the metal is removed from the field the bubble returns to the original state the detector remembers, thus the detector deactivates. IF THE FIELD DOES NOT RETURN TO ITS ORIGINAL SHAPE THE DETECTOR DOES NOT DEACTIVATE. AN UNSTABLE LOOP CAUSES THIS. Thus is seen by the detector turning on then off frequently without metal entering the fields. Most detectors have an internal check that phases out any detection/activation in a preset amount of time. If a car was to set over a loop for more than 30 minutes, the detector would automatically reset the field and by ready for any new metal. There is a model available that will not automatically reset itself. This model is a permanent presence detector. This model is available with any of our systems at no extra cost.

MOST INSTABILITY PROBLEMS ARE CAUSED BY THE MOVEMENT IN THE FIELD BY CLOSE, LARGE METAL PIECES. THE MOST CONCENTRATED PART OF THE FIELD IS ABOUT 4-6 INCHES FROM THE SURFACE OF THE SENSOR*.

* SENSOR IS THE LOOP OR COIL WINDINGS THAT SET UP THE FIELD

INSTALLMENT PROCEDURES

1.) PICK OUT A GOOD TIME FOR INSTALLATION! An evening that has a relatively slow next day is preferred in case of trouble or complications.

2.) TEST THE CARWASH FOR PROPER WORKING ORDER! MAKE SURE THE EQUIPMENT WORKS BEFORE WORKING ON IT! This way if something is wrong after you start you can tell it's the equipment and not the installation of the new system. This is true for any application.

3.) Find a suitable place for the control box. If a GL-14 or GL-SM8-B is used make sure the sensor cord can reach between the sensor and the control box. Mount box according to local codes.

4.) Pipe and Wire in according to your local codes. Consult the Needed Wiring diagram for the circuits needed.

5.) Make sure you have a constant 110vac power for this system. It is recommended that this be a constant circuit, and **NOT INTERLOCKED.** It is recommended that power to and on the control box is kept on at all times. The heat generated by the transformer will keep the control box free of condensation. **It is highly recommended to not have any piping run into the top of the control box.** This prevents water from running down the pipe to the control box.

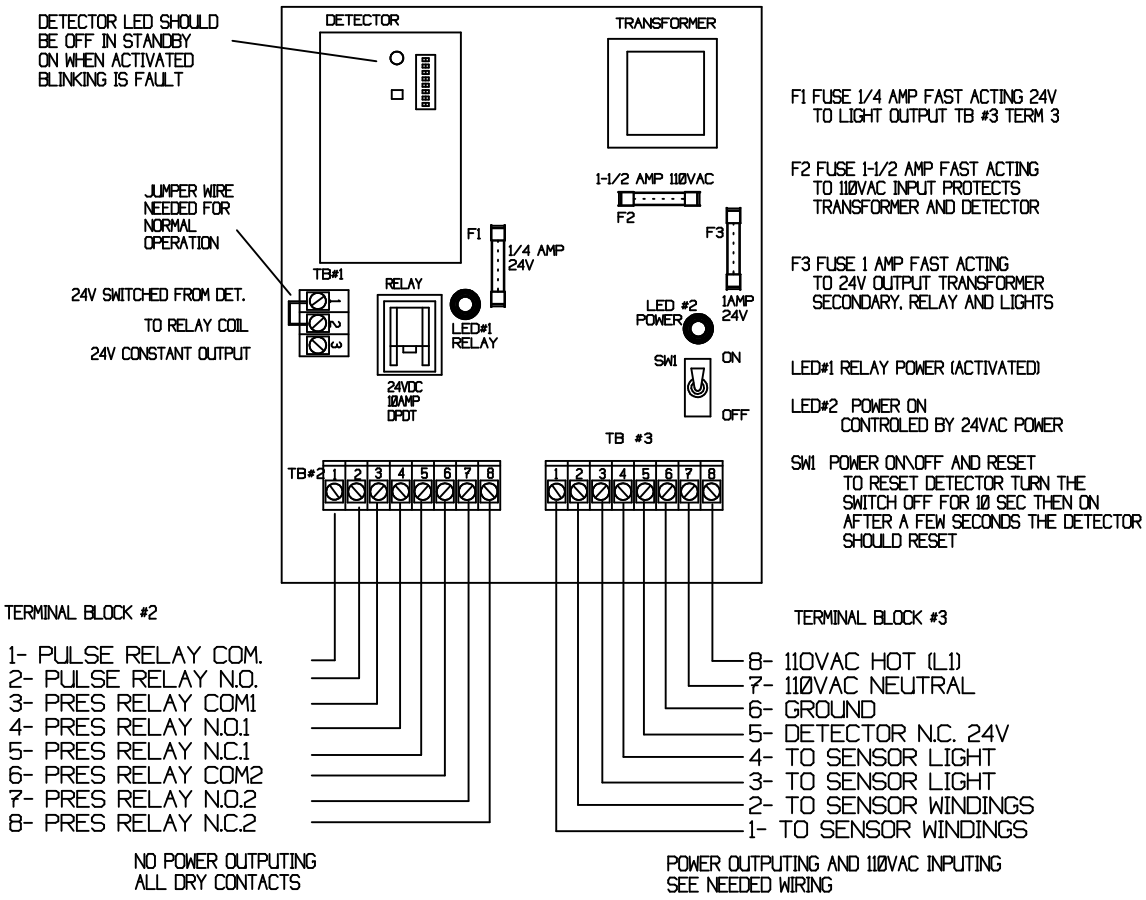
6.) Wire in the Inductive Loop Sensor. (GL-14, GL-SM8-B, etc.)

7.) Power up and test detection and function with a steel box/plate
Examples to use are License Plate, Snow Shovel, Tool Box, etc.

8.) After installation, test the car wash for proper operation.

NOTE:
For Detector information please read the Detector Instructions.
Detectors are factory preset for normal operation.

GL-RO3 BOARD COMPONENT LAYOUT



TERMINAL BLOCK #2

1- PULSE RELAY COM.
2- PULSE RELAY N.O.
3- PRES RELAY COM1
4- PRES RELAY N.O.1
5- PRES RELAY N.C.1
6- PRES RELAY COM2
7- PRES RELAY N.O.2
8- PRES RELAY N.C.2

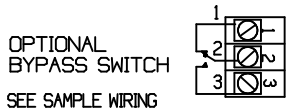
NO POWER OUTPUTING
ALL DRY CONTACTS

TERMINAL BLOCK #3

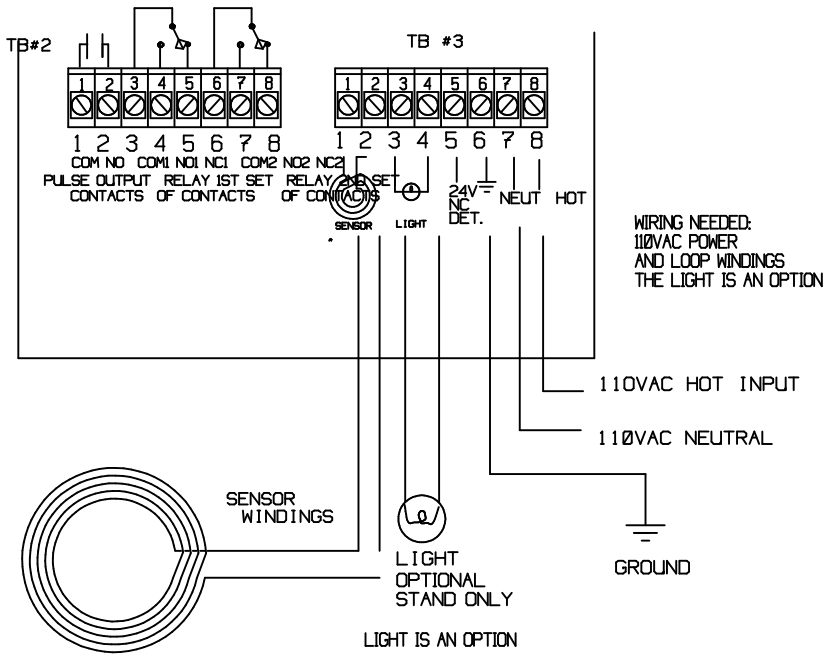
8- 110VAC HOT (L1)
7- 110VAC NEUTRAL
6- GROUND
5- DETECTOR N.C. 24V
4- TO SENSOR LIGHT
3- TO SENSOR LIGHT
2- TO SENSOR WINDINGS
1- TO SENSOR WINDINGS

POWER OUTPUTING AND 110VAC INPUTING
SEE NEEDED WIRING

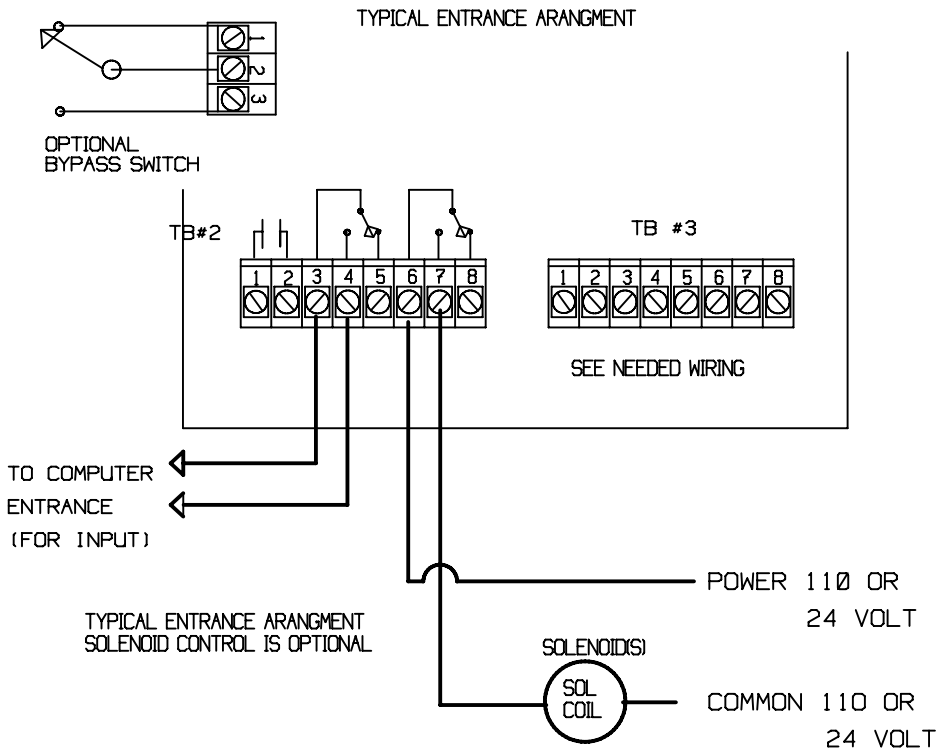
NEEDED WIRING



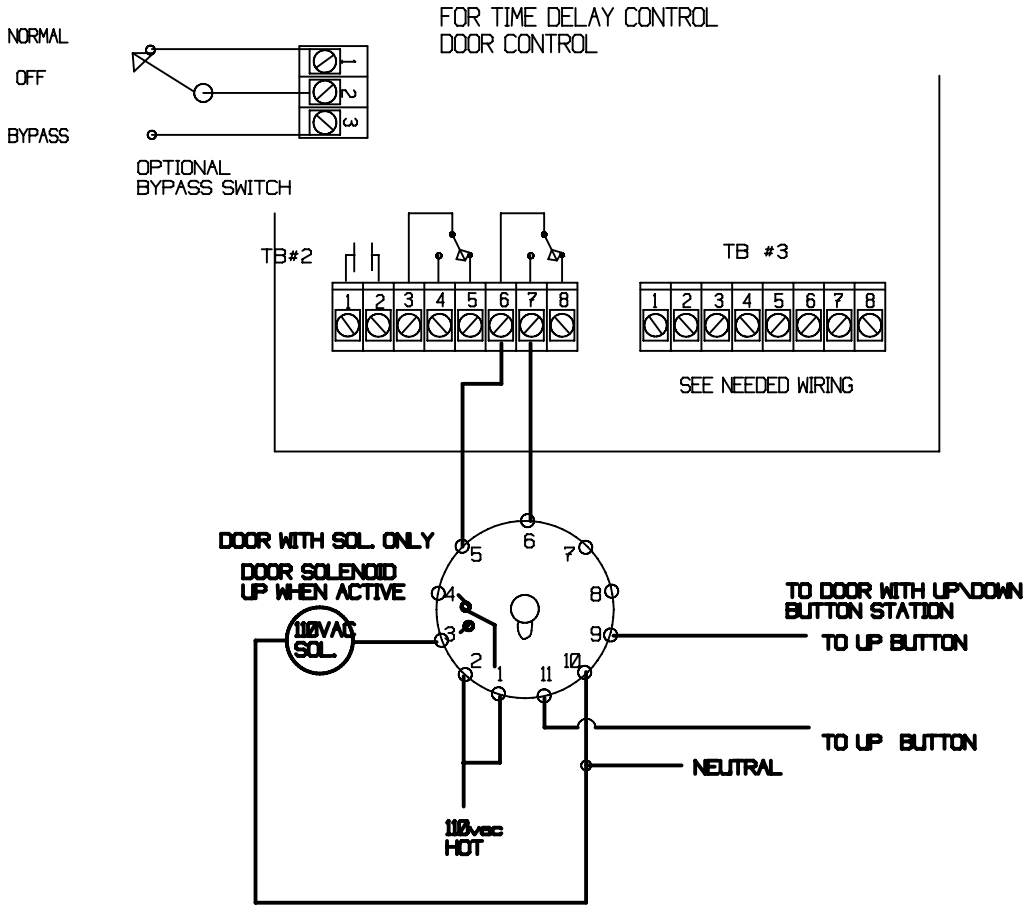
GLRO-3 CONTROL BOX WIRING DIAGRAM



SAMPLE WIRING DIAGRAMS FOR GL-R03

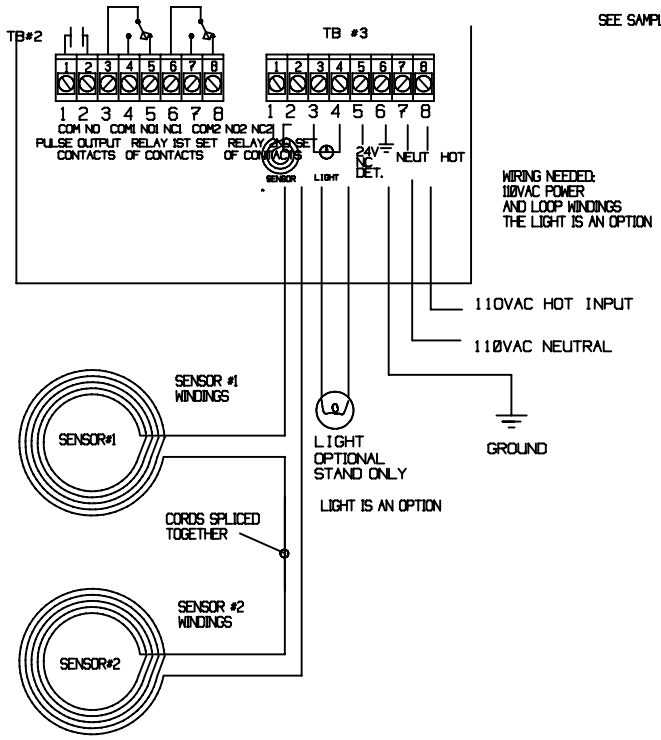


THERE IS NO POWER COMMING OUT OF THE RELAY CONTACTS USER MUST SUPPLY CONTROL POWER TO THE ITEMS BEING ACTIVATED. DONOT USE THE 24VAC OUTPUT TO POWER SOLENOIDS. RATING .5 AMPS MAX

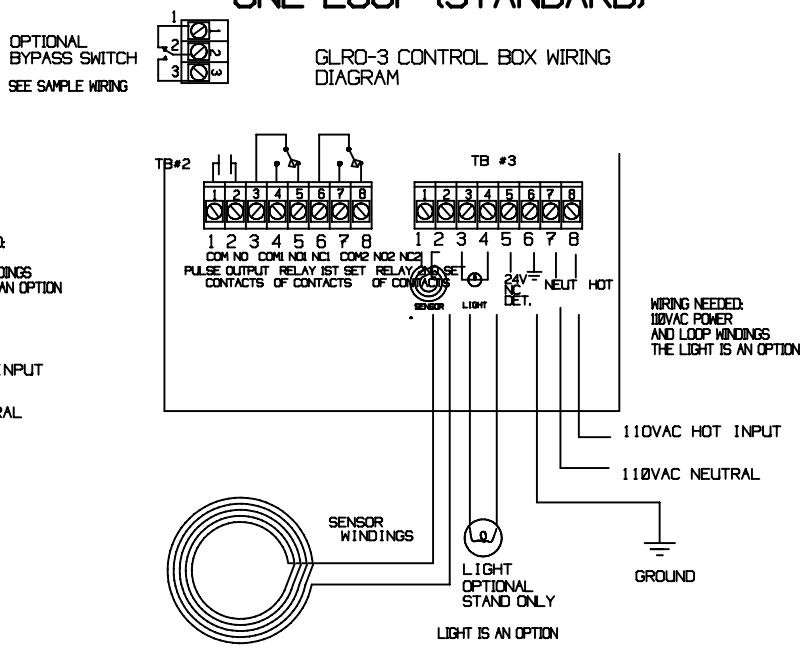


SAMPLE WIRING DIAGRAMS

WITH 2 LOOPS 1 BOX

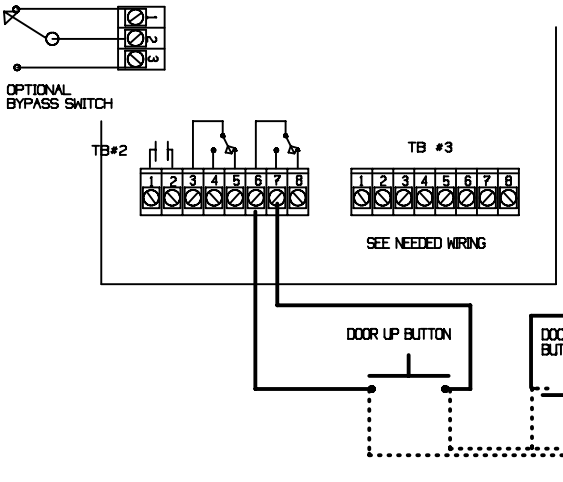


ONE LOOP (STANDARD)

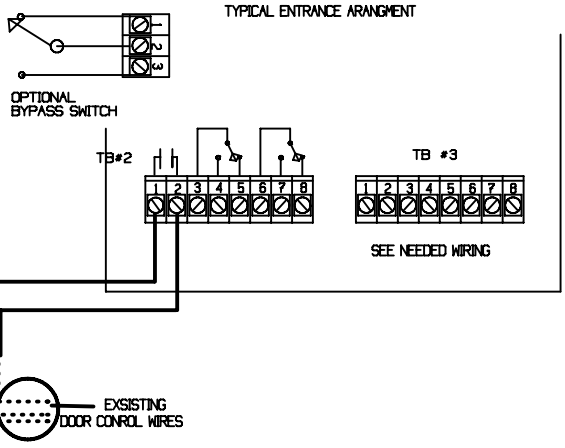


DOOR CONTROL WITH 2 BOXES

BOX #1



BOX #2



THERE IS NO POWER COMMING OUT OF THE RELAY CONTACTS USER MUST SUPPLY CONTROL POWER TO THE ITEMS BEING ACTIVATED. DONOT USE THE 24VAC OUTPUT TO POWER SOLENOIDS, RATING .5 AMPS MAX

COMMON PROBLEMS AND SOLUTIONS

1.) THERE IS NO POWER TO BOARD.

A.) MAKE SURE POWER SWITCH IS PUT TO THE ON POSITION.
B.) NO 110VAC POWER OR NUETRAL TO THE BOARD. TEST INCOMING POWER
C.) BLOWN FUSE: CHECK WIRING AND REPLACE FUSE

2.) NO POWER TO RELAY, POWER LIGHT ON BOARD, DETECTOR IS WORKING

A.) BLOWN FUSE: CHECK WIRING AND REPLACE FUSE
B.) TRANSFORMER LEG BROKEN DURING SHIPPING. REMOVE BOARD AND PULL ON TRANSFORMER WHILE LOOKING AT LEGS. SOLDER LEG FROM THE TOP OF THE BOARD. IF UNABLE TO FIX CALL GOODLIN SYSTEMS INC.

3.) NOT ENOUGH SENSITIVITY, SKIPPING OR NOT PICKING UP TRUCKS

A.) IMPROPER DETECTOR SETTING: READJUST THE DETECTOR.
B.) LARGE METAL PRESENT TO CLOSE TO SENSOR. RELOCATE THE SENSOR OR METAL.

4.) DETECTORS PRESENCE LIGHT IS FLASHING RAPIDLY

A.) THE DETECTOR DOES NOT SEE THE SENSOR OR LOOP.
B.) WIRING INTO CONTROL BOX WRONG
C.) BAD SPLICE
D.) LOOP OR SENSOR NOT WIRED IN AT ALL
E.) CABLE FROM LOOP OR SENSOR IS DAMAGED

1.) DETECTOR IS STAYING ON AFTER CAR LEAVES LOOP OR SENSOR

A.) LOOP IS UNSTABLE: TRY TO ADJUST DETECTOR. CHECK FOR MOVING METAL.
B.) BAD DETECTOR. CALL GOODLIN SYSTEMS INC.
C.) METAL TOO CLOSE TO LOOP.