

Electrical Solutions Corporation

2368 Eastman Ave, Suite 13, Ventura, CA 93003 Phone (805) 658-0848 ~ Fax (805) 658-0868

Greetings,

I have been asked to create a control drawing for a new relay-based Gate Controller.

Problem

The existing controller has only 2 photo eyes and no vehicle safety loop. The electrician wants to add a 3rd photo eye, but because there are no drawings of the existing gate control, he doesn't know where to connect the new photo eye.

Solution

- Examine gate control circuit.
- Because of the complexity of the circuit, it will be quicker and less expenisve to design a new control panel than to troubleshoot the existing unit.

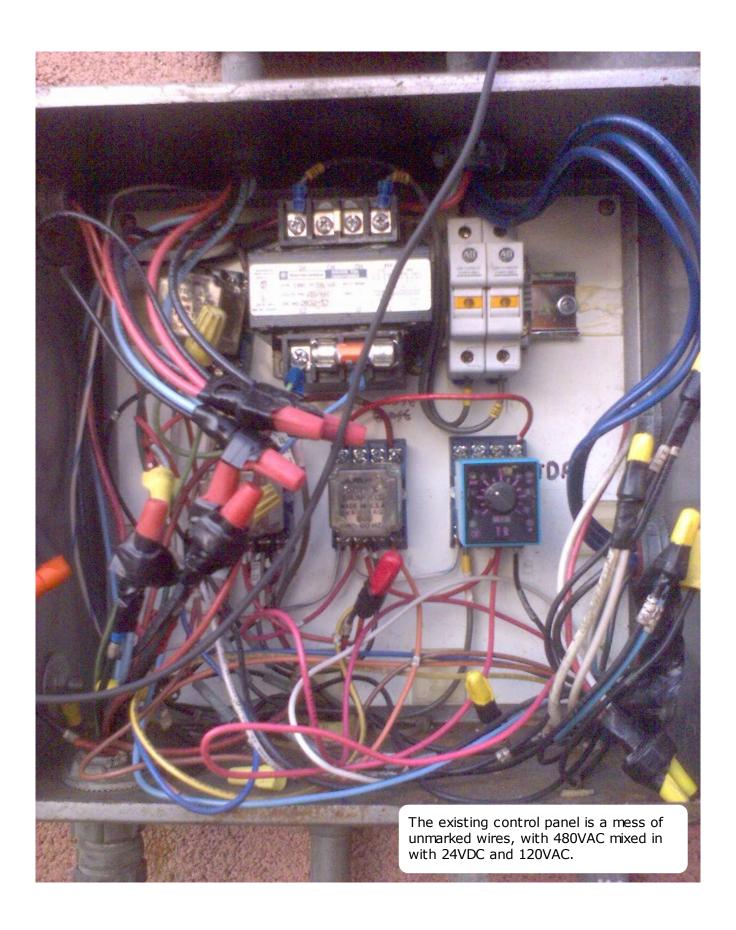
New Requirements

- The gate controller for rear gate should **interface** with the existing gate annunciation panel in the Control Room.
- When the call button from either the front or rear gate in pressed, a **buzzer** should sound in the Control Room, and a **pilot light** should light up indicating the gate where the caller is located.
- The buzzer should sound only while the call button is pressed, but the light should stay lit until the Open button in the Control Room is pressed.
- Whenever a car is detected near the **Open Loop**, the gate should automatically open. The gate should open until a **limit switch** is activated indicating that the gate is fully open.
- Once the car has cleared the Open Loop, a 2 minute timer will start. When the timer has timed out the gate will close until another limit switch indicates that the gate is fully closed..
- If the gate is closing and either (1) the loop detects a car, or (2) the **photo eyes** detect an obstruction, then the gate will immediately reverse until the open limit switch is once again activated.

Below, you will find my field notes prior to sending them to the designer for **final drafting**.

Sincerely,

Rick Hurdle Electrical Solutions Corporation



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PREPARED BY R. HUFUL 0ATE 11/15/67 W.O./A.F.E. NO. CHECKED BY Fax (805) 658-0868 West Gate Control Power Flow Fed From Pagel 4PF 277/480VAC 39 Cic+ 8, 10, 12 43 LZ 46 47 45 30A 480V 149 150 48 Telemacanique SIA IA 100 KVA Classco Class 460: 120/230V cc y m Gate Motor 1A Clase CC 12 Gate Control Panel

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Phone (805) 658-0848 CHECKED BY PAGE/7 Fax (805) 658-0868 11/19/07 R. Hurdle SUBJECT Control West Gate Control Panel From Control XEMR PEI - top Phato Eyes + Loop Ш Photo Fye #1 PEZ -middle ON-OFF Detectors Photo Eye # Z (a+ Gate) PE3 -bottom Photo Eye #3 12 LO1-OPEN Loop Detector # LDZ safery 2 1 Loop Detector #2 OPEN (at Gate) US-open open 000 127 122 113sw. opens when gate is fully open R3 (Safeties) 114 1231 R4 (Open from 15 1211 Key Switch (momentary) 16 1251 Latch 15 124-117

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PREPARED BY CHECKED BY PAGE 4/7 Fax (805) 658-0868 R. Hurdle 11/19/07 Control -Office Panel (exist) West Gate at Office Panel 120 VAC Neut Front Gate Signal Buzzer Buzzer 010 Back Gate Signal open Buck Gute 010 Back Gate Relay Latch -11-R5 Back Gate Pilot Lt. Open Control Panel Back open Gate 1 1 Back Gate (at Control panel) Front Gate open Signal Front Gate Front Gate Latch R6 11-R6 Front Garle Pilot 4+. open Front Gate To Front Gate open Front Controller Gate

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CHECKED BY 11/19/07 5/7 Fax (805) 658-0868 R. Hurdle SUBJECT Gate Control West - TERM Block Layout TB Color - connected together NC = Not Connected 4 END Block ON/OFF (a+ Gate) 810 120 Vac from xfm& fuse Photo Eyes + Loop Det. Neutral from xfmR W Neut to (R) coil 4 NC Neut to (0-1) Coil 4 went to (RE) coil NC Neut to R3 Co:1 Ma 7 Spare Spare Space 00 spare 9 Gn To enclosure Spare 10 50are TO PE, LD, ON/OFF 17 To open (at Gate) 13 NC BK 4 70 R3 BK To RH (ContRM) BK No 16 BK TO Key Sw. TO RI NC BIC ço. BK TO RI # 19 70 PE-1 (Safety String) BIC Spare 13 BK Spare To open (at Garle) 2 64 NC GY TO RB TO R4 (Cont Room) 64 NC To Key Sw. 64 6 64 TO LS-1 TO RI 7 64 TO (2) CO11 TU LS-1 80 64 From RI H TO R3 HH 3 64 TO 45-2 From R3

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PREPARED BY CHECKED BY 6/7 Fax (805) 658-0868 11/19/07 Rithurdle West Gate Control - Term Block Layout TB Color 1 From 65-2 TO (10-1) NC GY TO TD-1 010 TO Close (at Gate) Gy NC 13 GY NC RZ latch TO Gy NIC 10-1 & Gy From Close (at Gate) NC From RZ latch -11 57 # From PE-1, TO PE-2 No From PE-2, To Gy PE-3 NC 60 From PE-3 to LD-1 GY No +K From LD-1 70 4D-2 Gy NC 4 (R3) Co: 1 H To 64 From LD-2 1 Divide BK R(11) - to 64 Ruspen - th Gy R (12) 70 BK Motor R(10) RZClose \$ 64 BK Divider 古 21 R Bu Line In R to Starter 12 Bu 4 43 R. 4 R 49 72 From Starter R TO MOTOR 810 5 +3 R Divide

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PREPARED BY Fax (805) 658-0868 11/19/07 RiHurdle Gate Controls - Term Block Layout TB Color 51-60 Foreign Control Power _ <u>v</u> Bu ___ Hot From Cont. RM. To Back Gate Signal Switch 17 Bu Buzzer From Back Gate Signal Switch From Back Gate Signal Switch Open Back P.B. 13 Bu -70 Open Back Gate Cont. RM 4 To (RA) Coil Bu -Neut from Cont. Rm. & Bu -Neut to (R4) (0:1 Divider m Bu -Bu BK GH 120V J Bu -WIBK W Panel LPC G Bu BK 4H BK Divider 3 Bu-Control Rm HZS Manifor Blo Power Parel LPC? BK W End Block 60 terminals 5 Dividers Z end blocks white 7 Black 11 Grey 23 6 Red Blue 10 3 Ground 60