Honeywell

9LCA111L00AS
Medium Intensity Red Lighting System
Troubleshooting Guide

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BEACON (KG114) PROBLEMS

Section 1 No Beacon, all LEDs are out.

Possible Cause: Input power incorrect.
Diagnostic Test: Measure input power – it should be 120 VAC ±10%.
Corrective Action: Supply correct input power.

Possible Cause: Blown fuse on Master Card.
Diagnostic Test: With power still present to controller, measure voltage between TB1-N and both sides of the Master Card fuse, located on the left side of the card.
Corrective Action: Replace blown fuse.

Section 2 All red lights ON steady burn, no alarms.

Possible Cause: Blown fuse on Master Card.
Diagnostic Test: With power still present to controller, measure voltage between TB1-N and both sides of the Master Card fuse, located on the left side of the card.
Corrective Action: Replace blown fuse.

Section 3 Red lights ON during Day Mode.

Possible Cause: Mode switch SW1 in Night position.
Diagnostic Test: Check position of mode switch.
Corrective Action: Put SW1 in 'Auto' position.

Possible Cause: Photocell Malfunctioning.
Diagnostic Test: Put mode switch in 'Day'. If the red lights go OFF, then the photocell is bad.
Corrective Action: Replace photocell.

Possible Cause: Master Card Photomode circuitry failure.
Diagnostic Test: Switch the control to 'Day'. Check the DC voltage at pin 8 of U3 on the MC. This voltage should be 0VDC. Check the voltage at pin 3 of U3. This voltage should also be 0VDC. If the latter voltage is 12VDC, then U3 is bad. If 0VDC is at pin 3 of U3, then check the voltage at pin 15 of U4 on the MC. This should be 12VDC. If it is not, then U4 is bad.
Corrective Action: Replace either U3 or U4 on the Master Card.

Section 4 Beacon OFF, no alarms present.

Possible Cause: Mode switch SW1 in Day position.
Diagnostic Test: Check position of mode switch.
Corrective Action: Put SW1 in 'Auto' position.

Possible Cause: Solid State Relay Bad
Diagnostic Test: Switch the system to Day mode. Now turn the system back to night mode. Wait a few seconds. If the Flasher By-Pass Card reports an alarm, then there is a problem with either K2 or K3. Perform the RLO-SLO Switch Test on page 9 to determine the faulty relay.
Corrective Action: Replace bad relay(s).

Section 5 Beacon OFF, alarms present.

Possible Cause: KG114 Beacon has failed lamp(s)
Diagnostic Test: Switch the system to Day mode. Now turn the system back to night mode. Wait a few seconds. If the Flasher By-Pass Card reports no alarm and beacon alarm card reports an alarm, then there is a lamp burnt out.
Corrective Action: Replace beacon lamps.

Possible Cause: Solid State Relay Bad
Diagnostic Test: Switch the system to Day mode. Now turn the system back to night mode. Wait a few seconds. If the Flasher By-Pass Card reports an alarm, then there is a problem with either K2 or K3. Perform the RLO-SLO Switch Test on page 9 to determine the faulty relay.

Corrective Action: Replace bad relay(s).

SIDELIGHT PROBLEMS

Section 6 Sidelights Failure, alarm present.

Possible Cause: Obstruction Light circuit breaker turned OFF.
Diagnostic Test: See if circuit breaker has tripped.
Corrective Action: Turn circuit breaker ON.

Possible Cause: K2 solid state relay bad.
Diagnostic Test: Set the SW1 to 'Night'. Set your meter to AC volts. See if there is 120VAC at the terminal block or circuit breaker.
Corrective Action: If reading is zero, replace K2.

Possible Cause: Wrong DIP switch setting on the sidelight alarm module.
Diagnostic Test / Corrective Action: Match DIP switch setting with the actual number of sidelights to monitor (see "Default Switch Settings," Operations chapter).

Possible Cause: Sidelight lamp burned out.
Diagnostic Test: On the sidelight module Set the DIP switches to monitor 1 (one) less sidelight than the current number (reference switch setting positions in manual). Alternatively, measure the current going out to your sidelights though the wire on TB3-1. Compare your current reading to the nominal (expected) current level to see how many sidelights you have operating.
Corrective Action: Replace burned out sidelight.

Sidelight Alarm Module Current Levels

These values were obtained using 120 VAC input power and 116 Watt, 120 VAC lamps.

	One Lamp	Two Lamps	Three Lamps
Nominal (Expected) Current Level	0.98 A	1.96 A	2.94 A

Control Output Voltage/Current Measurement Table

Measure at TB2	Measured Value	Expected Value
B (beacon) to N (neutral)	Volts AC	0 – 120 Volts AC *flashing*
O (sidelight) to N (neutral)	Volts AC	120 Volts AC *steady*
Beacon Current – CB1	Amps AC	0 – 14 Amps AC *flashing*
Sidelight Current – CB2	Amps AC	1 – 4 Amps AC *steady*

Note: To measure current across CB1 and CB2, set your meter to AC Amps, place the black lead on the bottom screw and the red lead on the top screw, then turn OFF the circuit breaker.

If the measured values **do not** agree with the expected values, please recheck any value that does not agree. If after rechecking measurement, they still do not agree, please consult technical support at (805)581-5591.

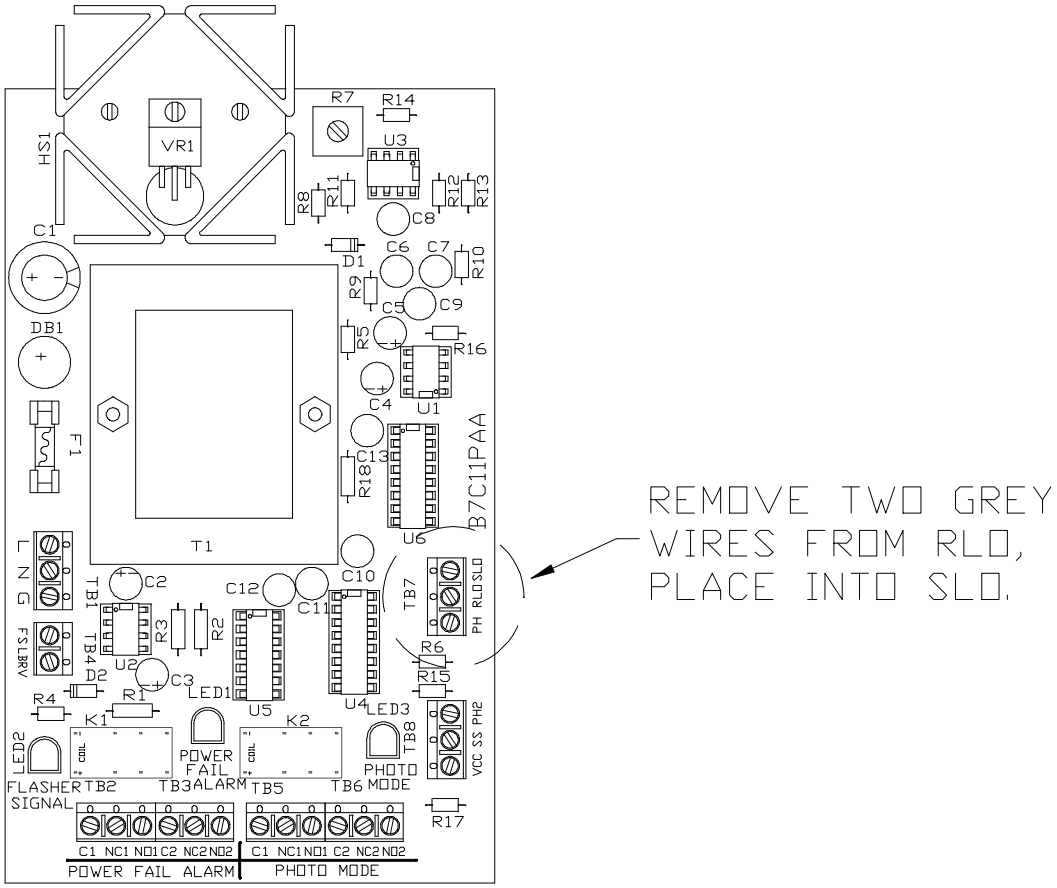
RLO-SLO Switch Test

This is the test method to find area of defect for a flash failure on a red incandescent beacon.

Needed Test Equipment:

- Small Screwdriver
- Reliable Voltmeter

1. First, remove input voltage from controller by way of input breaker in electrical panel.
2. Place the DAY-NIGHT-AUTO switch into the NIGHT position.
3. Remove the gray wire from MC-TB7-RLO as shown below.
4. Put the wire into MC-TB7-SLO.
5. Turn power back ‘on’.
6. The Flasher-By Pass card is now locked out to allow the beacons to flash.
7. Take voltage readings at the beacons lines and OB lines at TB2.
8. Compare readings to table below to determine problem area.
9. After problem has been found, turn power off, and replace gray wire into MC-TB7-RLO.



For 9LCA111L00AS

Beacon Voltage (VAC)	OB Voltage (VAC)	Problem Area
120VAC Steady	120VAC Steady	SSR K3
0 VAC	120VAC Steady	SSR K3
0 VAC	0 VAC	SSR K2 and/or K3
120VAC Flashing	120VAC Steady	Bad GND or Bad FBP

If the result of the test is a BAD GND, check for proper input power ground connection. If there is no input ground connection, place a wire between TB1-G and the gold locknut on the control panel. This should give sufficient grounding for the system.

If there is a ground connection at TB1-G, then double check the termination of the connection at the power source for proper connection. If the connection is made, then check the ground connections in the control box at each circuit card.

The last location of a bad ground connection is on the tower. Check the beacon connections at the top junction box to ensure that the beacon cable is grounded to the junction box, conduit, or tower ground wire from the control box.

If the test result is BAD FBP(Flasher By-Pass Card), switch the control to Day mode. If all the alarms do not clear then U5 on the Master Card is bad. Otherwise, after 5-10 seconds switch the control back to night mode. If the control reports a flasher by-pass alarm immediately after switching to night mode, check I.C. U1, U4, U5, and U6 on the Master Card for possible failure.

Also, check I.C. U3 on the Flasher By-Pass card for failure.

Status Indicators

Power Fail
- Located on the Master Card, is green when power is applied to the controller.

Photo Mode
- Located on the Master Card, will always be lit either Green or Red.
- Green: Day Mode
- Red: Night Mode

Flasher Signal
- Located on the Master Card, will flash during the night mode at 30 times a minute.
- This signal will flash the beacon relay.

Flasher By-Pass
- Located on the Flasher By-Pass Card, the LED should be Green during normal operation.
- If the LED is RED, then a flash failure has occurred.

Beacon Alarm
- Located on the Alarm Card, the LED (one on left) should be Green during normal operation.
- If the LED is RED, then a lamp(s) have failed.

Sidelight Alarm
- Located on the Alarm Card, the LED (one in middle) should be Green during normal operation.
- If the LED is RED, then a lamp(s) have failed.

Tools Required

- 3/16” Flat head screwdriver
- 3/8” nut-driver to open flashhead
- Small flat head screwdriver (used for screws on circuit boards)
- Clean gloves to use when changing lamps
- Digital multimeter w/ Ohm reading, AC & DC voltage reading and 10A current capacity

Recommended Spare Parts

9LCA111L00AS Dual Lighting Control

Complete Internal Panel Assembly	9LCA111L00AS
K1	KA120DV2022C
K2, K3	KR241DV4011R
Master Card (MC)	B7C13PAA
Flasher By-Pass Card (FC)	B7C31PAA
Alarm Card (AC)	B7C21PAA

Beacon & Sidelight Lamps

Beacon Lamp – 120V, 620W	LH620120GE
Sidelight Lamp – 120V, 116W	LH116120GE