

SURE-LITES

Operating Instructions For Self-Diagnostic Units and Exits

IMPORTANT SAFEGUARDS

WHEN USING ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE OBSERVED INCLUDING THE FOLLOWING:

- 1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS**
2. Do not use outdoors.
3. Do not mount near gas or electric heaters.
4. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
5. The use of accessory equipment not recommended by Sure-Lites may cause an unsafe condition.
6. Do not use this equipment for other than its intended purpose.
7. Some equipment covered by these instructions are approved for remote fixtures. This equipment does not require a load fuse because its sophisticated solid-state transfer switch is current limited. Check load rating of equipment to calculate remote capability. **DO NOT** exceed TOTAL OUTPUT RATING of equipment. TRANSFER CIRCUIT will automatically shut down if overloaded.
- 8. SAVE THESE INSTRUCTIONS**

This highly advanced fixture will automatically find a problem that occurs with the battery, battery charger, transformer, self-powered lamps or lamp circuit. If a problem is found, the buzzer sounds and the test button blinks. By momentarily depressing the test button, the buzzer will silence for seven days. The test button's color and number of blinks clearly show the status of the system at all times. If the battery connections are reversed, a light near the edge of the charger board inside the fixture will turn red. If the AC supply is on, a light in the same location will also turn green.

TEST BUTTON STATUS INDICATION (failures listed in order of priority)

TEST BUTTON LIGHT	CONDITION
- Green -----	Battery fully charged
- Blinks green continuously -----	Battery charging at a high rate
- Blinks red continuously -----	Battery capacity low or failed (turn AC off, replace the battery)
- Blinks red two times ... then repeats -----	Battery not connected (turn AC off, battery connections)
- Blinks red three times ... then repeats -----	Transformer failure (turn AC off, replace the transformer)
- Blinks red four times ... then repeats -----	Battery charger failure (turn AC off, replace the circuit board)

If the equipment only has emergency lamp heads or only has exit lamps, the test button shows a problem as follows:

- Blinks yellow continuously -----	Self-powered lamp burned out (replace the lamp)
- Blinks yellow two times ... then repeats -----	Lamp circuit short/overload (check lamp load, possible short)

If the equipment has both emergency lamp heads and exit lamps, the test button shows a problem that occurs as follows:

- Blinks yellow continuously -----	Self-powered emergency lamp burned out (replace the lamp)
- Blinks yellow two times ... then repeats -----	Emergency lamp circuit short/overloaded (check lamp load, possible short)
- Blinks yellow three times ... then repeats -----	Self-powered exit lamp burned out (replace the lamp)
- Blinks yellow four times ... then repeats -----	Exit lamp circuit short/overloaded (check lamp load, possible short)

NOTE: If multiple problems occur, failure conditions at the top of the list will be shown before those listed below.

MANUAL TESTING

When the AC supply is on, battery capacity, system wiring, and the self-powered lamps can be manually tested by depressing the test button for one beep (two seconds). This "manual confidence test" can also be used to quickly find a failed lamp; and after replacing the lamp, used again to reset the failure diagnostic. Once started, the test keeps the self-powered lamps on for five minutes. The lamps can be turned off before the five minute period is up by depressing the test button again for one beep. The fixture prevents the battery from becoming over discharged by allowing only four "manual confidence tests" to be started per day.

If the test button is steady green (indicating the battery is charged), the battery capacity can be tested manually by depressing the test button for two beeps (four seconds). This will cause the self-powered lamps to turn on for the battery capacity test period. If the battery voltage falls below 87.5% of its rated voltage before the test period is over, a battery capacity failure will occur. Once the battery capacity test starts, the battery capacity test and the starting time of all automatic tests, can be delayed for 36 hrs. by depressing the test button for one beep. The fixture prevents false failures by waiting until the test button is steady green before starting a test, and allowing only one test within a 24 hr. period.

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AUTOMATIC TESTING

The fixture automatically turns on the self-powered lamps for a one minute “automatic confidence test” every 30 days. Battery capacity is randomly tested once within six month periods by automatically turning on the self-powered lamps for the battery capacity test period. After an automatic battery capacity test has started, the battery capacity test and the starting time of all automatic tests, can be delayed for 36 hrs. by depressing the test button for one beep. If the battery capacity test period is set to 0 minutes, the automatic battery capacity and one minute confidence tests will not occur. Self-powered lamps are tested continuously when turned on. When turned off, self-powered lamps are tested once every 24 hrs. by being turned on briefly for about 1/10th of a second. All other conditions are tested continuously while the AC supply is on.

FACTORY SET FEATURES

Some features are set only at the factory. If the test button light is on, setup of these items can be determined by depressing the test button for four beeps (about eight seconds). The fixture responds by automatically sequencing through the following list of items, taking about two seconds for each item. The fixture will beep back once or twice depending on the setup of the item.

	<u>Setup if One Beep</u>	<u>Setup if Two Beeps</u>
1. Battery voltage:	6 volts	12 volts
2. Battery type:	Lead Calcium	Nickel Cadmium
3. Exit during AC failure:	On steady	Flashes
4. Buzzer during AC failure:	Stays Silent	Sounds

NOTE: The equipment comes ready to operate out of the box. No setup modifications are necessary unless a change in normal operation is required. CAREFULLY read the OPTIONAL SETUP section first to determine if a change is required.

OPTIONAL SETUP (can be performed anytime after installation with AC power and the battery cover on)

	<u>STANDARD OPERATION</u>	<u>OPTIONAL OPERATION</u>
	(2 beeps)	(1 beep)
1. Buzzer during diagnostic failure:	Sounds	Stays silent
2. Buzzer sound during AC/diag. failure:	Beeps @ 1 sec. rate	Steady on
3. Exit flash rate during fire alarm:*	Flashes @ 1 sec. rate	Follows input signal
	(2, 3, or 4 beeps)	(1, 2, 3, or 4 beeps)
4. Battery capacity test period: **	1.5, or 2 hrs. (model dependent)	0, 0.5, 1.5, or 2 hrs.
5. Emergency mode time delay:***	15 min.	0, 15, 20, or 30 min.

* Available only with exits equipped with a fire alarm interface option. Response is activated when the brown wire is 10 to 55 volts higher than the blue wire and deactivated when there is 0 or negative voltage across the brown and blue wires. It can be DC or .5 to 120Hz.

** While the amount of time that the self-powered lamps are on during the battery capacity test can be set from 0 to 2 hours, IT SHOULD BE SET TO THE MINIMUM EMERGENCY MODE OPERATING TIME AS DEFINED BY LOCAL CODES.

*** When the AC supply turns back on from a power failure, the self-powered emergency lamps stay on for the delay period.

Step 1. If the unit has been setup before, leave all covers and the AC power on, and skip the rest of this step and go to Step 2. Otherwise, with the AC supply off, connect all battery leads. The test button will light green. If 60 seconds pass before starting Step 2, the test button light will turn off and a battery lead will need to be disconnected and reconnected again.

Step 2. Depress the test button for three beeps then release. The test button light will turn off.

Step 3. Depress the test button for two beeps then release. Note: While at this step or Step 4 or 5, if the test button is not pressed for 30 seconds, the unit will automatically exit the setup mode.

Step 4. Depress the test button for one beep then release. The test button will light yellow.

Step 5. Choose an item from the list above that needs to be changed, or needs its present setting checked, by depressing the test button for 1, 2, 3, 4, or 5 beeps. This action selects item 1, 2, 3, 4, or 5 respectively and moves setup to Step 6.

In response, the test button will blink yellow the same number of times as the number of the item selected, then repeat the blink. The fixture will also beep back 1-4 beeps, indicating the setup of the item. For items 1, 2 and 3, two beeps indicate the item is set to the standard mode of operation. One beep indicates it's set to the optional mode of operation.

For items four and five, 1, 2, 3, or 4 beeps indicate that the battery capacity test is set at 0, 0.5, 1.5, or 2 hours and the emergency mode time delay is set at 0, 15, 20, or 30 minutes respectively.

Step 6. Note: If the test button is not depressed for 30 seconds while at this step, the unit automatically returns to **Step 5**. For items 1, 2, and 3, depress the push button for one beep to set the item to the optional mode of operation or depress the push button for two beeps to set the item to the standard mode of operation.

For items 4 or 5, depress the push button for 1, 2, 3, or 4 beeps to select 0, 0.5, 1.5, or 2 hours for the battery capacity test, or 0, 15, 20, or 30 minutes for the emergency mode time delay respectively.

After pressing the push button, the unit will automatically return to **Step 5** allowing the selection of another item. When no other items need to be selected, wait 30 seconds and the unit will automatically exit **Step 5** and the setup mode. If the unit is being set up for the first time, after exiting setup, complete **Step 2** and **3** in the **STANDARD SETUP** section.

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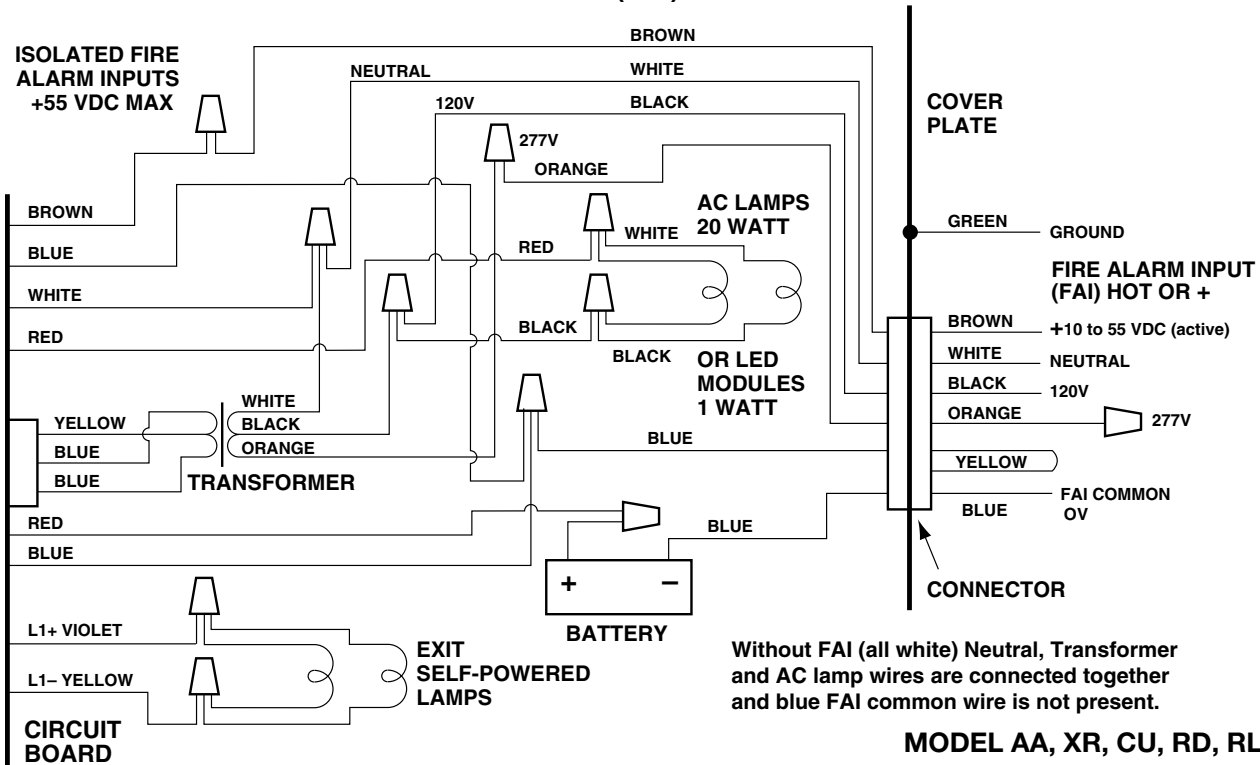
STANDARD SETUP

CAUTION: To avoid electrical shock, be sure AC power is off when the battery cover is removed.

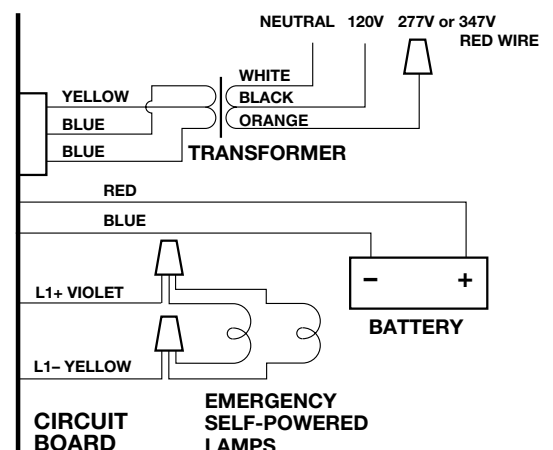
- Step 1.** With the AC supply off, connect the battery leads. The test button will light green for one minute. After one minute, the light will turn off until the AC supply is turned on.
- Step 2.** Replace the battery pack cover, then turn on the AC power. The test button will be green if the battery is fully charged, blink green if it is fast charging, or double blink green if the lamp load hasn't been calibrated yet because the battery doesn't have enough charge. When the battery has enough charge, the unit will automatically calibrate the lamp load by turning on the lamps for 5 seconds, then briefly turn them on again 5 to 50 seconds later. After the calibration is finished go to Step 3. Note: Turning on the AC power sets an internal 24 hr. time clock to 12:00 hrs. The first automatic 1/10th second lamp test will start in 12 hrs. at 24:00 hrs. All automatic tests start at 24:00 hr. times.
- Step 3.** Depress the test button for one beep to start a five minute manual confidence test. Visually check the operation of each self-powered lamp. If a lamp is not on, or a lamp circuit overload occurs, you MUST turn off the AC power, disconnect a battery lead for at least 10 seconds, correct the problem, and repeat Step 1. If everything checks out OK, the lamps can be turned off before the five minute on period is up by depressing the test button again for one beep.

NOTE: For proper operation, units with both emergency heads and exit lamps must have at least a 9 watts total lamp load in the emergency head lamp circuit.

MODEL CAX with Fire Alarm Interface (FAI)

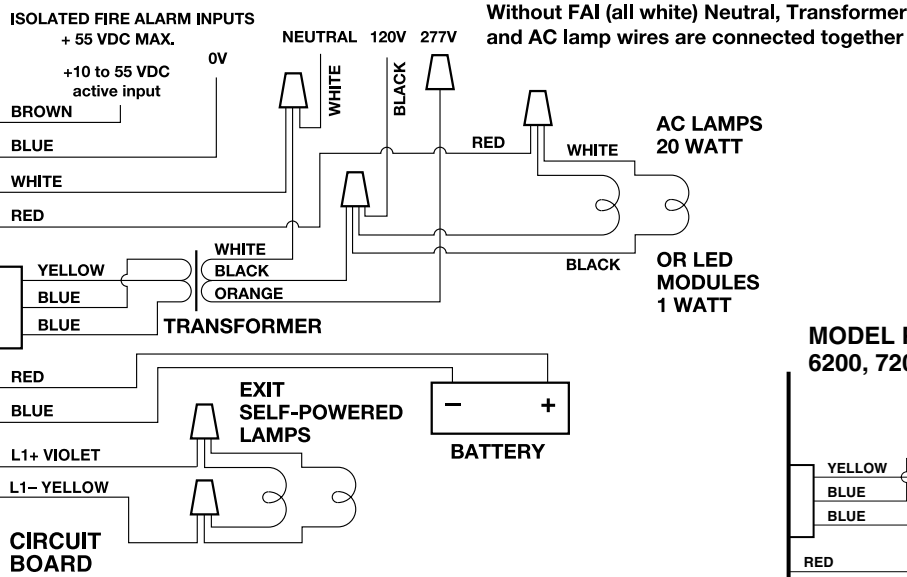


MODEL AA, XR, CU, RD, RLM, GC

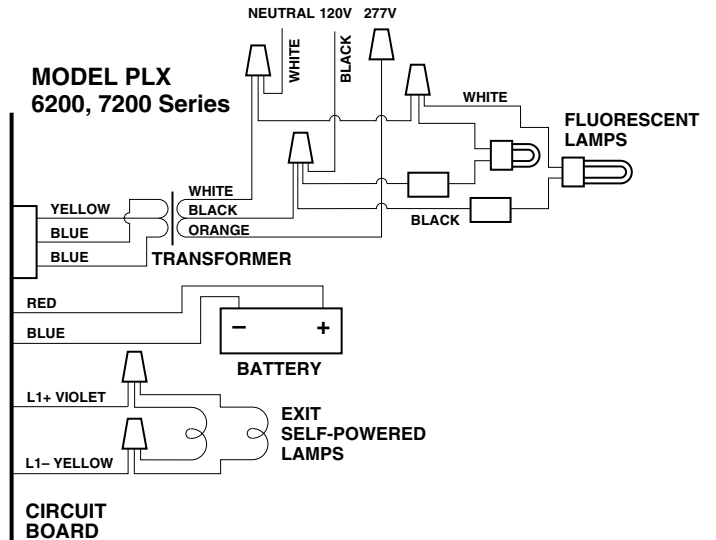


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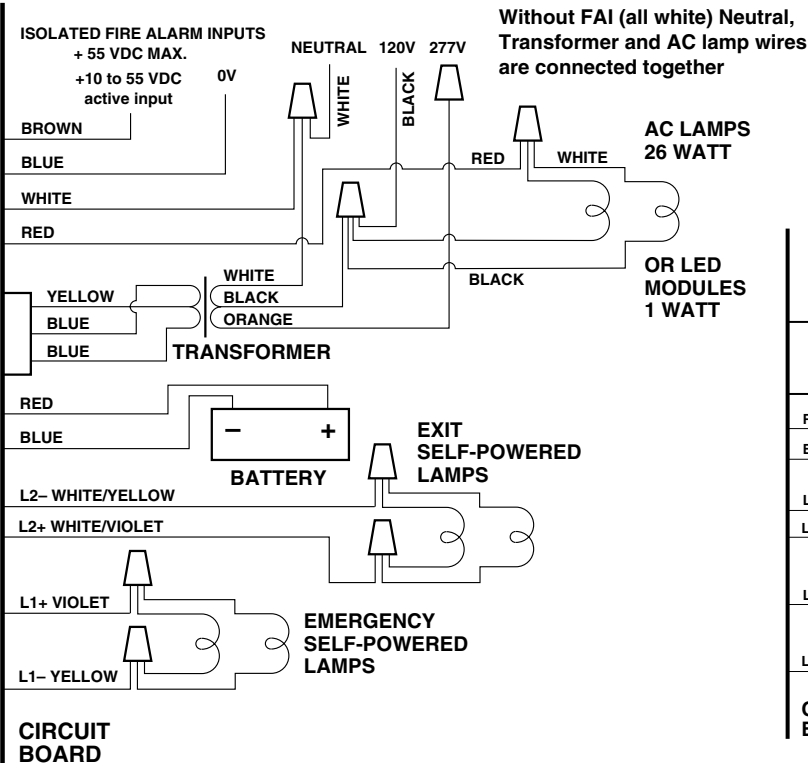
MODEL CHX, UN, EP, PCX, PEP with Fire Alarm Interface (FAI)



MODEL PLX 6200, 7200 Series



MODEL UNH with Fire Alarm Interface (FAI)



MODEL PLX 7202 Series

