LIGHT*Master*

QUICK INSTALLATION AND START UP GUIDE

INTELLIGENT LIGHTING CONTROLS, INC.
Energy Saving Lighting Controls

This guide will provide a quick overview of installation and wiring the ILC LightMaster controller. For more information and programming information, see the LightMaster Quick Reference or User Guide CD supplied with this controller. You may also visit www.ilc-usa.com to download the User Guide, or call ILC for more information or a printed User Guide.

1 Pre-Installation Checks

Do the following before beginning the installation:

1. Verify that you have received the proper equipment. Check the packing slip against the materials you ordered and verify that the material is appropriate for the project. Check to ensure that the voltages of the controller(s) transformers match the available power. Report any discrepancies or visible damage at once.
2. Review electrical prints and other relevant project documentation.
3. Ensure that you have a digital multi-meter.

2 Mounting the Controller

Consider the following when selecting a site for the LightMaster.

2.1 Location – Typically, the LightMaster controller is mounted near the lighting panel containing the circuits to be controlled by the lighting relays. The enclosure is manufactured with pre-drilled mounting holes located near the four corners of the rear wall of the enclosure. Secure the enclosure to the mounting surface with hardware appropriate for the application.

2.2 Environmental Considerations – The LightMaster is designed to operate in temperatures between 0 and 50 degrees C (32°-112°F) and 10%-90% humidity non-condensing.

2.3 Distance From Control Devices – See User Guide for LightSync requirements. Direct wired switches, pilots and other control devices can be located up to 1500 feet from the LightMaster controller using 18 gauge wire.

3 Wiring the Controller

Perform the following procedures to wire the line and control circuits of the LightMaster. Do **NOT** apply power to any circuits until instructed to do so. Document all terminations.

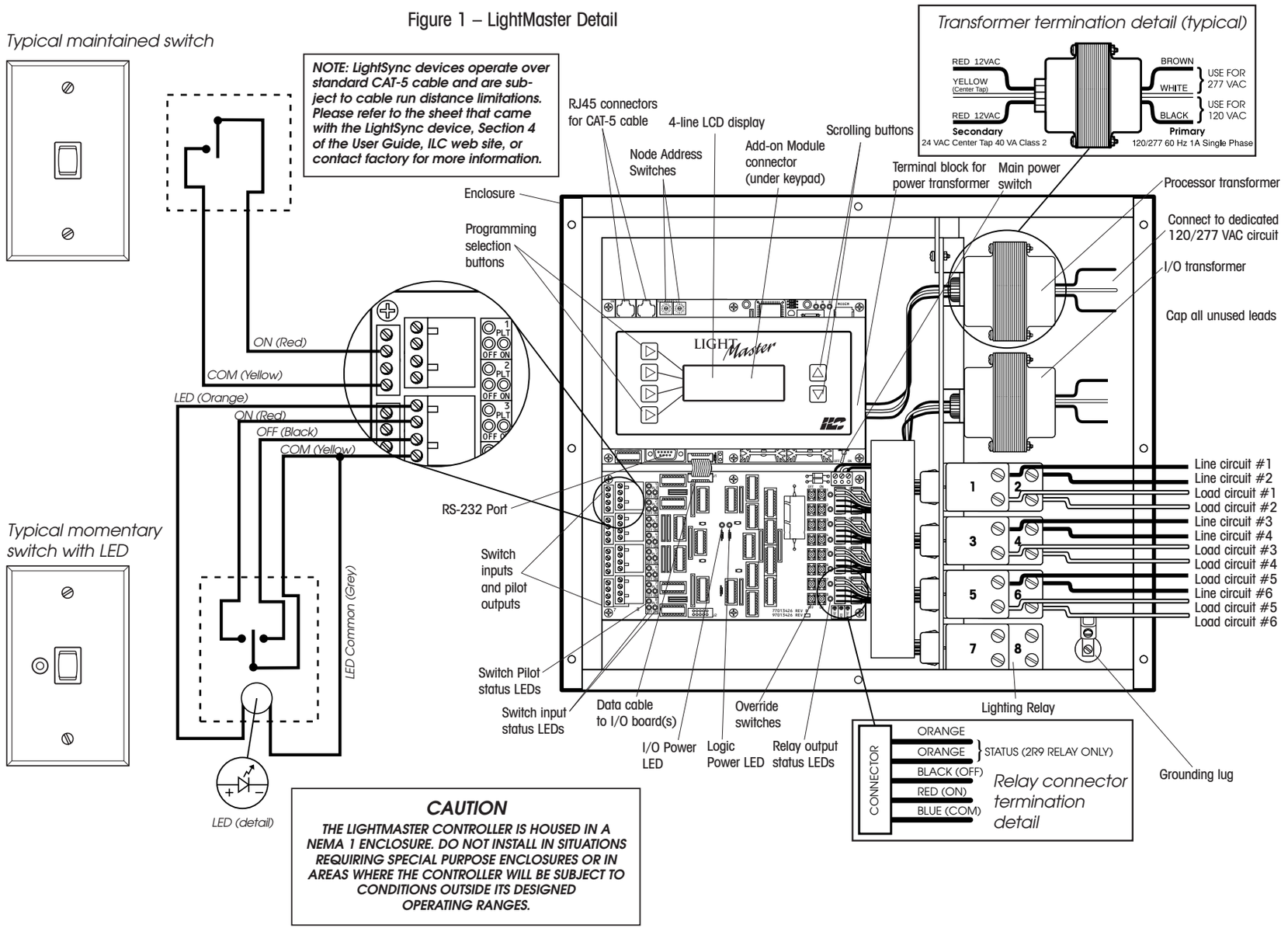
3.1 Wire the Control Transformer
Run a dedicated 120 or 277 VAC circuit, including grounding conductor, and terminate it to the primaries of the LightMaster processor and I/O transformers. Cap all unused leads. (See Figure 1.)

3.2 Connect Line and Load – Connect line and load wires of the line voltage circuits to the Lighting Relays. (See Figure 1.)

2.3.3 Wire Switch Inputs - Wire the Class 2 Switch Circuits. (See Figure 1.) **NOTE: Keep all Class 2 wiring separated from the high voltage wiring. If LightSync™ inputs are used, see User Guide, web site or contact factory for data cable requirements.**

1. Run the required wiring between the controller and the field-installed switches. Consult project documentation to determine the type and quantity of required switch circuits. Check each switch run to ensure that there are no shorts between conductors or to ground. Also verify that there are no opens.
2. Make the connections at the switch end.
3. Make the connections to the controller switch input terminals.

Figure 1 – LightMaster Detail



CAUTION

THE LIGHTMASTER CONTROLLER IS HOUSED IN A NEMA 1 ENCLOSURE. DO NOT INSTALL IN SITUATIONS REQUIRING SPECIAL PURPOSE ENCLOSURES OR IN AREAS WHERE THE CONTROLLER WILL BE SUBJECT TO CONDITIONS OUTSIDE ITS DESIGNED OPERATING RANGES.

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4 Install Network Cable

1. Run the cable between nodes. If PSRs are required, ensure they are powered.
2. Install RJ-45 male connectors to the cable ends for each node run. Refer to pinout diagram on install sheet or User Guide.
3. Verify the integrity of each run with a CAT-5 cable tester.
4. Set the node address on the controller (See Figure 1) and any LightSync devices.

5 Pre-Power Checks

Complete the following checks BEFORE applying power to the LightMaster controller.

5.1 Check Controller Power Input

1. Verify that the controller power switch is OFF.
2. After verifying that the processor and I/O transformers source voltage is 120 or 277 VAC (whichever is appropriate), power-up the circuit.
3. Verify correct line voltage on the primary of the transformer.

5.2 Verify Controller's Supply Voltage

Verify that there is 24 VAC on processor and I/O transformer secondaries and 12 VAC between each leg and the center tap. (See Figure 1.)

5.3 Double-Check Connections

1. Verify integrity of I/O connections.
2. Verify integrity of all internal and external wire/cabling.

5.4 External Monitoring and Control

If control of the LightMaster via LightMaster Pro software and a PC is desired, consult the LightMaster User Guide appendix for instructions.

6 Power-Up and Check Out

Complete the following procedures to power-up and checkout the LightMaster controller.

6.1 Power-Up the Controller

1. Turn the power switch located on the CPU board ON. (See Figure 1.)
2. Verify that the controller keypad screen displays the default time and date.
3. Verify that both power lights on each I/O board are lit. (See Figure 1.)

6.2 Verify the Lighting Relays

Switch each relay ON and OFF, pushing the override switches located on the I/O board(s). There are separate ON and OFF switches for each lighting relay. (See Figure 1.) Verify that the relay status LED goes ON and OFF and that the relay itself changes state. Verify that the relay controls the proper circuit.

6.3 Perform Initial Programming Procedures

(See enclosed LightMaster Quick Reference Guide or LightMaster User Guide Section 3.)

1. Clear memory.
2. Set the correct date and time on the controller.
3. Program the switch inputs and timers.

6.4 Verify the Switching Function

1. Operate each switch.
2. Verify that each switch controls the correct lighting relays in the manner you have programmed.

6.5 Verify the Timer Functions

1. Force Timers from Keypad menu. Refer to LightMaster User Guide Section 3.

7 Troubleshooting

In the event of trouble, use the following procedures to identify the problem.

7.1 Controller Will Not Power-Up

1. Verify that there is 120/277 VAC on the primary and 24 VAC on the secondary and 12 VAC between each leg and the center tap of the control transformer.
2. Verify that all the power LEDs on the CPU and I/O board(s) are lit.
3. If there is proper primary and secondary voltage on the transformer but the power LED is not lit and the keypad screen doesn't come up, consult the factory.

7.2 Lighting Relay(s) Will Not Function

1. Verify that there is 24 VAC to the terminal block on the I/O board from the transformer secondary.
2. Make sure that lighting control wiring is landed properly on the relay output of the I/O board(s). (Blue is common, red is ON, black is OFF, orange is status.) (See Figure 1.)
3. Override the affected relay ON/OFF with the override switches located on the I/O board. (See Figure 1.)
4. If the relay doesn't respond, consult the factory.

7.3 Switch Input Will Not Function

1. Check your programming.
2. Verify proper connections at field and controller end.
3. Verify that there is only one maintained switch connected per input.
4. Unhook field connections from affected input. Connect test switch of same type as field switch.
5. Work the test switch. Observe whether the switch input status LED lights when it senses a switch closure.
6. If the switch input LED lights and the relays function properly, there is probably a problem with the field wiring.
7. Verify that the CPU is seeing the switch input by **viewing the current switch status**. This can be done with the keypad by going to the **Switch Status** screen and scrolling to the individual input or scanning all of the inputs to verify that a switch closure is being seen by the controller (See LightMaster User Guide Section 3). Also the outputs of the I/O board(s)s can be tested through the keypad. Relays can be forced individually or all swept ON or OFF using the keypad (See LightMaster User Guide Section 3).
8. If the switch input or affected relay doesn't respond (or no response is viewed through the keypad), consult the factory.

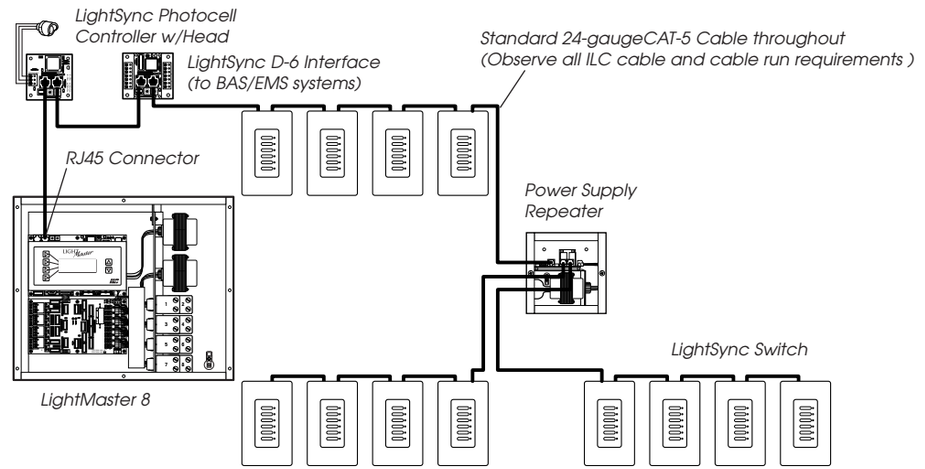
7.4 Timers Will Not Function Properly

1. Check your programming.
2. Verify the affected output integrity by mapping a switch input to the output and triggering it with a test switch. If the relay doesn't react, consult the factory.

7.5 Entire I/O Board(s) Doesn't Work

1. Check to ensure that the data and power cables linking the I/O boards are connected properly and are free of opens and shorts.
2. Check to ensure that both of the power LEDs on each I/O board are lit.
3. Verify that the CPU sees the expansion I/O boards using the keypad. This can be done by going to the Relay Status screen and scrolling through the outputs to see if the CPU sees all of the outputs (See User Guide Section 3).
4. If the I/O board is not recognized by the CPU, consult the factory.

LightMaster Sample Installation



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