LiteWizard™ Installation Manual

AMSE Code Compliant device listed to Canadian and US standards by TUV for use in elevators.
Certified Product: Elevator PLC
Certificate Number: CU 72101368000

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Electronic Controls Inc
7073 North Atlantic Ave
Cape Canaveral, FL 32920
WWW.ECIAMERICA.COM
800-633-9788

REV	DATE	DESCRIPTION
1.0	7/18/2010	Initial Release
2.0	9/23/2010	1st Update
3.0	12/9/2010	Added Safety info and redesigned manual
4.0	2/4/2011	Added more info on CabLite product
5.0	4/8/2011	Rearranged Table of Contents page, added line about detailed installation instruction page 7
6.0	5/11/2011	Added line about fire service on page 10
7.0	8/29/2013	Logo Change
8.0	1/5/2018	Changed to new manual design. Added more detail

1 Table of Contents

2 Warnings and Disclaimer

Thank you for purchasing equipment from ECI America, Inc. We want your new equipment to operate safely. Anyone who installs or uses this equipment should read this publication (and any other relevant publications) before installing or operating the equipment.

To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and usually change with time. It is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation is in compliance with the latest revision of these codes.

At a minimum, you should follow all applicable sections of the National Fire Code, National Electrical Code, ASME A17.1 Safety Code for Elevators and Escalators and the codes of the National Electrical Manufacturer's Association (NEMA). There may be local regulatory or government offices that can also help determine which codes and standards are necessary for safe installation and operation. Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards.

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3 Trademarks

4 Conventions Used

When you see the "notepad" icon in the left-hand margin, the paragraph to its immediate right will be a **special note**. Notes represent information that may make your work quicker or more efficient. The word **NOTE**: in boldface will mark the beginning of the text.

When you see the "exclamation point" icon in the left-hand margin, the paragraph to its immediate right will be a **warning**. This information could prevent injury, loss of property, or even death in extreme cases. Any warning in this manual should be regarded as critical information that should be read in its entirety. The word **WARNING:** in boldface will mark the beginning of the text.

5 Safety Information

Knowing the safety hazards related to any procedure you are about to perform, know what equipment has been specified for each specific contact, and know what tools and materials you should plan to have available beforehand. Before connecting electrical wiring, take precautions to prevent accidents from happening to yourself and other people around you. **Always consider safety first!**

- Wear a hard hat when working in the hoistway.
- Wear safety glasses or goggles when using power tools.
- Always wear protective gloves when installing or removing access covers, conduits, wire way or electrical devices.
- When working on car canopy, always be aware of where the sides of the car are
- located.
- Use properly grounded cords and power equipment (ground fault circuit interrupters).
- Make sure there are proper clearances in hoistway between the car and other devices.
- Before connecting wiring, cover sharp edges to keep hands and arms from being cut.
- Always assume that a circuit is live, disconnect power from all related circuits before proceeding with wiring.
- Clear wiring sites of any unnecessary materials or equipment.
- Always know where other people are and how the elevator wiring can affect their safety.
- Safety lock and tag out procedures are always required before performing any kind of service, repair, adjustment, lubrication or inspection of power driven equipment. These procedures help to prevent injury or death caused by power driven equipment.
- To reduce the danger of electrical shock, always make sure electrical connections are secure. Also, make sure no bare wires are exposed after pulling electrical cable.
- Use a circuit tester to be certain the circuit is not active before touching it.

6 System Overview

LiteWizard™ is an application that runs on an ECI PLC-1 programmable logic controller. LiteWizard™ will switch off the cab lighting and fan when the car is sitting idle for a certain amount of time. Elevator safety code section ASME A17.1-2007 Section 2.14.7.2.2 defines conditions under which cabs can be allowed to go dark:

The car is at a floor – Input 1 of LiteWizard
The doors are closed – Input 2 of Litewizard
There is no demand for service – Input 3 of LiteWizard
The car is on automatic – Input 4 of LiteWizard™

NOTE : Input 5 of LiteWizard is optional

In addition to the conditions defined by ASME A17.1-2007 Section 2.14.7.2.2, the LiteWizard will recognize a signal from the Emergency Call Button (connected to input 6) and override all other inputs and switch on the fan and lights.

7 Connections

Refer to Figure 1- LiteWizard Circuit Board

7.1 Power

110 VAC pins 34,35

7.2 Inputs

Input 1 – Pins 1,2 - Car is at a floor
Input 2 – Pins 3,4 – Doors are closed
Input 3 – Pins 5,6 – No demand for service
Input 4 – Pins 7,8 – Car is in automatic
Input 5 – Pins 9,10 – Optional (Can be used for Fire Service)
Input 6 – Pins 11,12 – Emergency Bell

7.3 Outputs

Relay 1 – Common – Pin25
Relay 1 – N.C. Contact – Pin 26
Relay 1 – N.O. Contact – Pin 27
Relay 2 – Common – Pin 28
Relay 2 – N.C. Contact – Pin 29
Relay 2 – N.O. Contact – Pin 30

7.4 LiteWizard™ Configuration

7.4.1 Option Switches

There are 6 configuration switches on the LiteWizard board. See Figure 1- LiteWizard Circuit Board. Each switch pertains to one of the inputs. If the input is used the associated switch number must be in the ON position.

Configuration switches must be set before applying power to unit.

NOTE: Switch 6 must be ON for all configurations whether it is used or not.

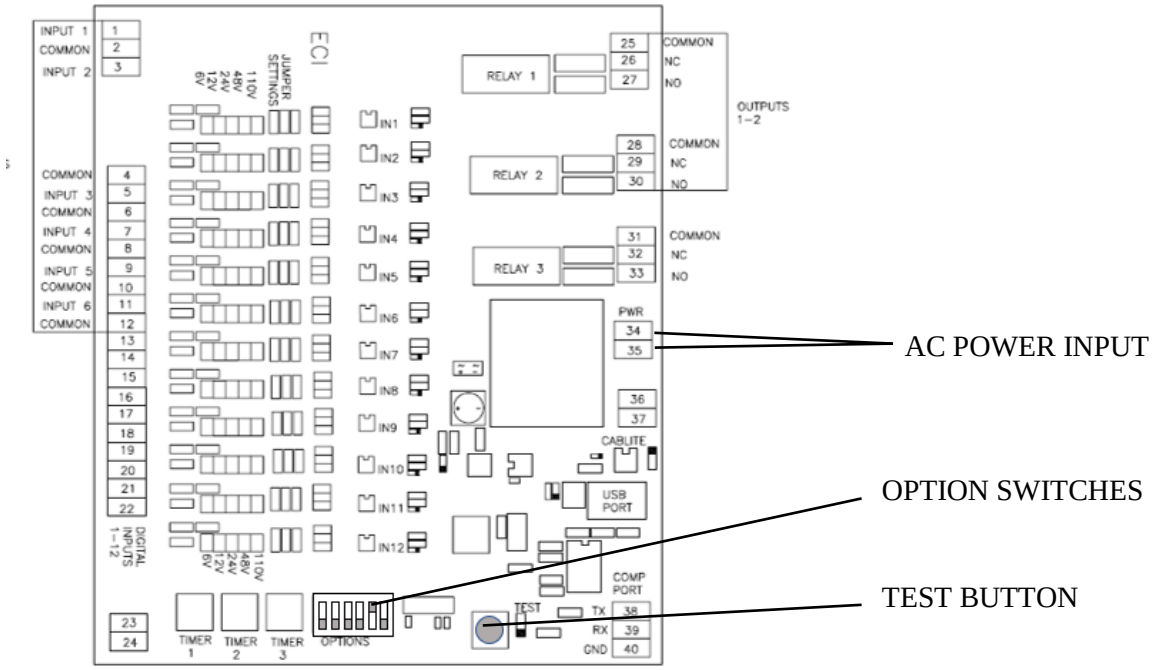

Figure 1- LiteWizard Circuit Board

7.4.2 Input Voltage

Each input has an associated jumper for the input voltage level ranging from 6 to 110 volts AC or DC.

Warning: Be sure to set the jumper to the appropriate voltage level or permanent damage to board may result.

INPUT	TERMINAL PINS	OPTION SWITCH
1	1, 2	1
2	3,4	2
3	5,6	3
4	7,8	4
5	9,10	5
6	11,12	6

7.4.3 Timer Adjustments

There is one potentiometer (TIMER 1 and TIMER 2) associated with each relay (RELAY 1 and RELAY 2). Use these to adjust the time delay from the time all inputs are valid to power being turned off.

7.4.4 TEST button

Pressing the test button lights the TEST LED. This will shorten the delay times for the RELAYS to 10% to allow for easy testing before closing up. Pressing the TEST button a second time will disable test mode.

8 Installation

Be sure power is disconnected before starting installation

- Configure all inputs for proper voltage
- Set the OPTION switches to the ON position for each input used. **NOTE: switch 6 must always be ON**
- Turn TIMER 1 and 2 potentiometers fully counter-clockwise.
- Connect Cab lights and FAN power through desired relay output connections
- Connect AC power to pin 34 and 35.
- Apply power to unit
    - Some input LEDs may light.

9 Testing

NOTE: Before testing be sure that input combination for turning off lights and fan is not valid; i.e. at least one of the inputs must be invalid or off and, if used, input 6 must be invalid or off.

- Press the TEST button
    - The TEST LED should light
- Put the inputs into the combination that should start the timer.

- In approximately 5 seconds (with TIMER POTs turned completely counter-clockwise) the relays on the board should energize.

- Remove or make one input invalid
  - The relays should de-energize right away.
- Adjust the timer(s) to the desired time remembering that with TEST LED on the times are 10% of the actual operating time.
- When complete, press the TEST button and the TEST LED should extinguish.

10 Installation Example

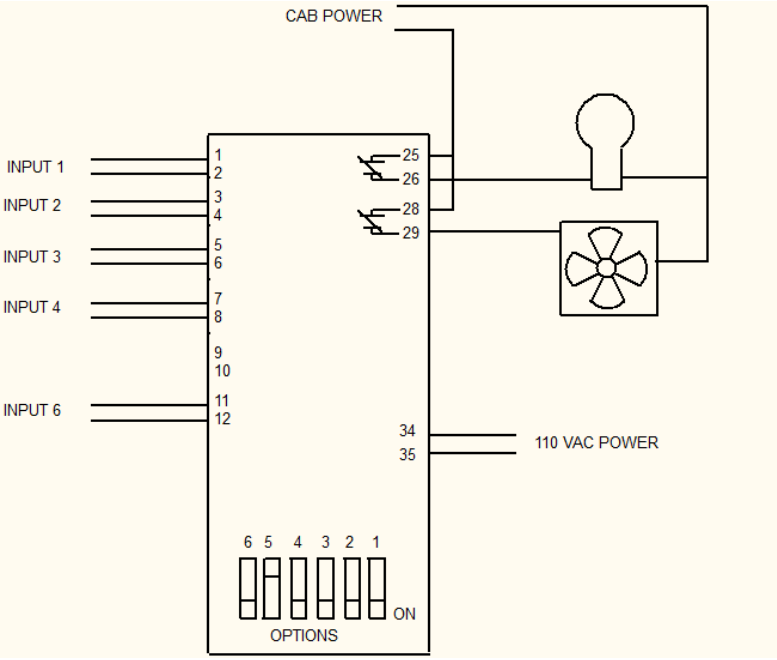

Figure 2- Installation Example

In the configuration shown in Figure 2- Installation Example, the timer to turn off CAB lights and fan will start when INPUTS 1-4 are valid or ON (input LEDs lit) and Input 6 is off (Input 6 LED off). If any input changes (any of inputs 1-4 go invalid or input 6 goes on) the TIMER resets until the inputs are valid. Should the inputs stay valid for the configured time (set by TIMER 1 and 2 POTs) the cab lights and fans will turn off.