



## Front-End Emergency LED Driver

Models: ACE-H10DC-180CP, ACE-H10DC180CPO,  
ACE-H7DC180CPO, ACE-H14DC180CPO

# INSTRUCTION MANUAL

## IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS:

1. To prevent electrical shock, do not engage the battery connector until installation is complete and AC power is supplied to the unit.
2. To reduce the risk of electrical shock, disconnect both normal and emergency power sources before servicing.
3. This is a sealed unit. Replace the entire unit when necessary.
4. Installation and servicing should be performed by qualified personnel only.
5. This unit must be grounded. See the wiring diagrams for details.
6. This unit must be connected to the unswitched normal source of power with a nominal voltage of 120 – 277 Vac (or 347 Vac for 347 Vac models), 50/60 Hz.
7. This unit must be fed from the same branch circuit as the AC LED driver during normal mode.
8. This unit should be mounted in locations and heights where it will not readily be subjected to tampering by unauthorized personnel.
9. This unit is suitable for mounting externally to lighting fixtures. It is suitable for factory or field installation.
10. This unit is suitable for use in damp locations where the ambient temperature is in the range of 0 °C minimum to 50 °C maximum. This product is also suitable for use in sealed and gasketed fixtures.
11. This unit is not suitable for heated air outlets, wet, or hazardous locations.
12. Use of accessory equipment not recommended by the manufacturer may cause an unsafe condition, void the warranty, or result in non-compliance with regulations.
13. Do not mount near gas or electric heaters. Do not use this product outdoors or for any use other than its intended use.
14. Install in accordance with the National Electrical Code and local regulations.

## SAVE THESE INSTRUCTIONS



AUXILIARY LIGHTING EQUIPMENT



THIS PRODUCT CONTAINS A RECHARGEABLE LITHIUM-ION BATTERY. THE BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY.



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## CAUTION:

**BEFORE INSTALLING, MAKE CERTAIN THE AC POWER IS OFF. DO NOT ENGAGE BATTERY CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED TO THE UNIT.**

**NOTE:** Make sure the necessary branch circuit wiring is available. An unswitched source of power with a nominal voltage of 120 – 277 Vac, 50/60 Hz or 120 – 347 Vac, 50/60 Hz (depending on the model) is required. The emergency lighting power supply must be fed from the same branch circuit as the AC LED driver.

For field installations, the following items need to be checked to determine if the LED driver-luminaire combination is suitable.

**A:** Verify that the 0/1-10 Vdc dimmable LED driver's input is compatible with the emergency lighting power supply's output, which supplies 120 – 180 Vdc to the LED driver's input in emergency mode.

**B:** Verify that the 0/1-10 Vdc dimmable LED driver is compatible with the proper emergency lighting power supply model. This can be determined using the table below, and using the LED driver's output power range as a guide:

| Model                               | Output Power (W) | LED Driver's Input Power (W) |
|-------------------------------------|------------------|------------------------------|
| ACE-H10DC-180CP,<br>ACE-H10DC180CPO | 10               | 3-80                         |
| ACE-H7DC180CPO                      | 7                | 3-56                         |
| ACE-H4DC180CPO                      | 14               | 3-112                        |

**C:** Ensure that there will be sufficient emergency egress lighting illumination levels per national, state, and local codes. Use the following guidelines.

- 1.) Determine the efficacy (lm/W) of the LED driver-luminaire combination. This information is typically given by the luminaire manufacturer in lumens per Watt (lm/W or LPW), or by direct measurement or published by a 3rd party such as Design Lights Consortium ([www.designlights.org](http://www.designlights.org)).
- 2.) The light output of the LED driver-luminaire combination in lumens can be calculated by multiplying the output power (W) of the emergency lighting power supply by the efficacy of the LED driver-luminaire combination (lm/W). This will provide an estimate as a beginning point for the emergency lighting design. Use the following equation and example as a guide:

### Example Calculation:

#### Given:

- The Emergency Lighting Power Supply = 10 Watts
- The LED Driver-Luminaire combination efficacy = 120 lm/W (also called LPW)

#### Then:

- The emergency-mode light output = 10 X 120 = 1200 lm

**NOTE:** The above serves only as an example, actual results will depend on the specific data for the specific application.

- 3.) Once the light output (lm) is determined, use industry standard lighting design tools to estimate the illumination levels for the emergency egress path based on mounting height and other factors.

**NOTE:** This product is compatible with most LED fixtures and LED loads that meet criteria A, B, and C above. However, interoperability and compatibility cannot be guaranteed. Compatibility and interoperability testing for the end-use application is recommended. Please contact the factory should there be any questions.

**NOTE:** After installation, it is necessary that the emergency egress lighting illumination levels be measured to ensure compliance with national, state, and local codes.

**Mounting Height:** This product meets or exceeds the NFPA minimum light requirements with all loads, down to the smallest rated lamp load, at heights up to 7.17ft (2.2m). Many factors influence emergency illumination levels, such as the lamp load selected, luminaire design, and environmental factors therefore end use verification is necessary. For field installations, when the attached luminaire is mounted at heights greater than 7.17ft (2.2m), the level of illumination must be measured in the end application to ensure the requirements of NFPA 101 and local codes are satisfied.

## OPERATION:

**Normal Mode** – During normal-mode conditions the emergency lighting power supply charging indicator should be illuminated. The dimming function should operate as normal.

**Emergency Mode** – When there is a failure of the normal source of power, the emergency lighting power supply switches to emergency-mode and supplies the input of the LED driver with a dc voltage between 120 and 180 volts. The emergency lighting power supply uses its 0-10 Vdc analog dimming controller to adjust the dimming signal fed to the compatible 0-10 V dimmable LED driver's dimming control input to regulate the power delivered to the LED driver for the duration of the power failure up to 90 minutes. When normal power returns, the emergency lighting power supply returns to normal mode.

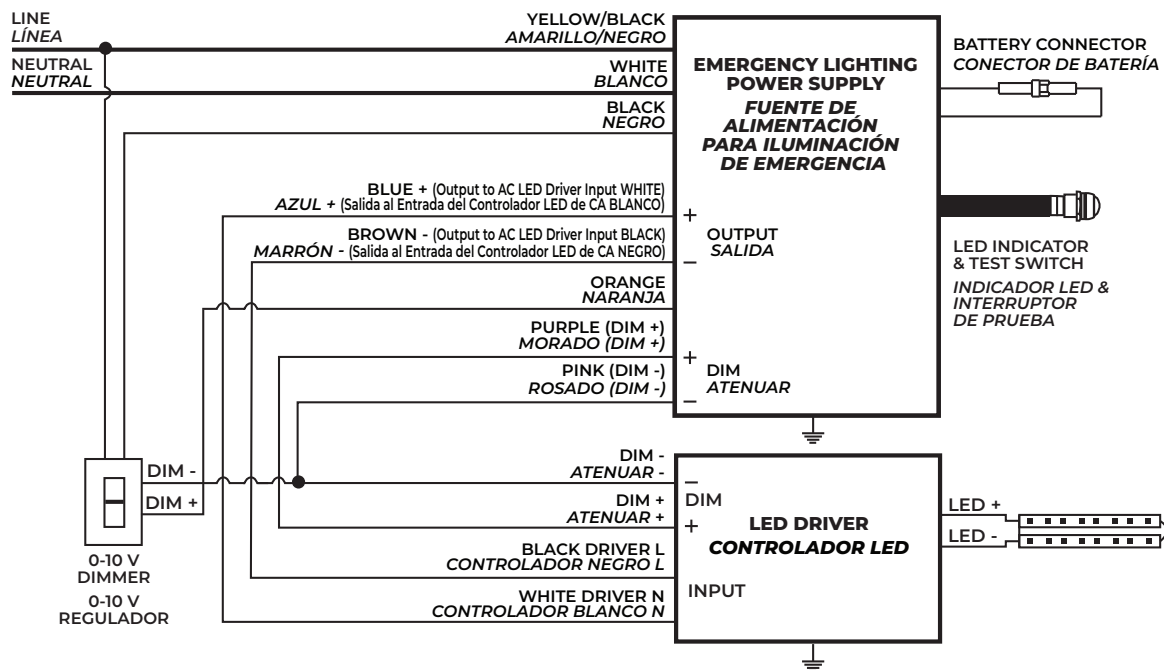
## TESTING & MAINTENANCE:

This is a maintenance free unit; however, periodic inspection and testing is required per NFPA 101, Life Safety Code.

## WIRING DIAGRAMS ACE-H10DC-180CP:

### A. WITH DIMMABLE LED DRIVER (WITH DIMMER, WITHOUT WALL SWITCH)

### A. CON CONTROLADOR LED REGULABLE (CON REGULADOR, SIN INTERRUPTOR DE PARED).



**B. CON CONTROLADOR LED REGULABLE (CON REGULADOR, SIN INTERRUPTOR DE PARED).**



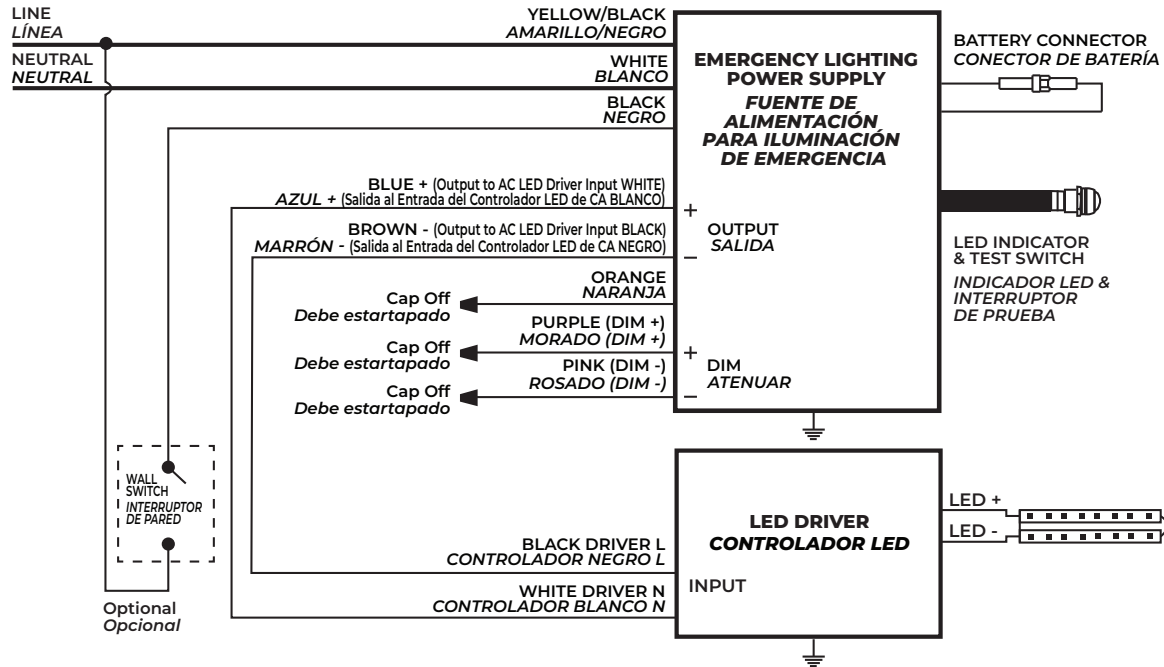
## WIRING DIAGRAMS ACE-H10DC-180CP CONTINUED:

### D. WITH NON-DIMMABLE LED DRIVER (WITHOUT WALL SWITCH)

### D. CON CONTROLADOR LED NO REGULABLE (SIN INTERRUPTOR DE PARED).

(Note: For this configuration, the LED Driver must not exceed the emergency lighting power supply's output power rating.)

(Nota: Para esta configuración, el controlador LED no debe exceder la potencia nominal de salida de la fuente de alimentación de emergencia.)

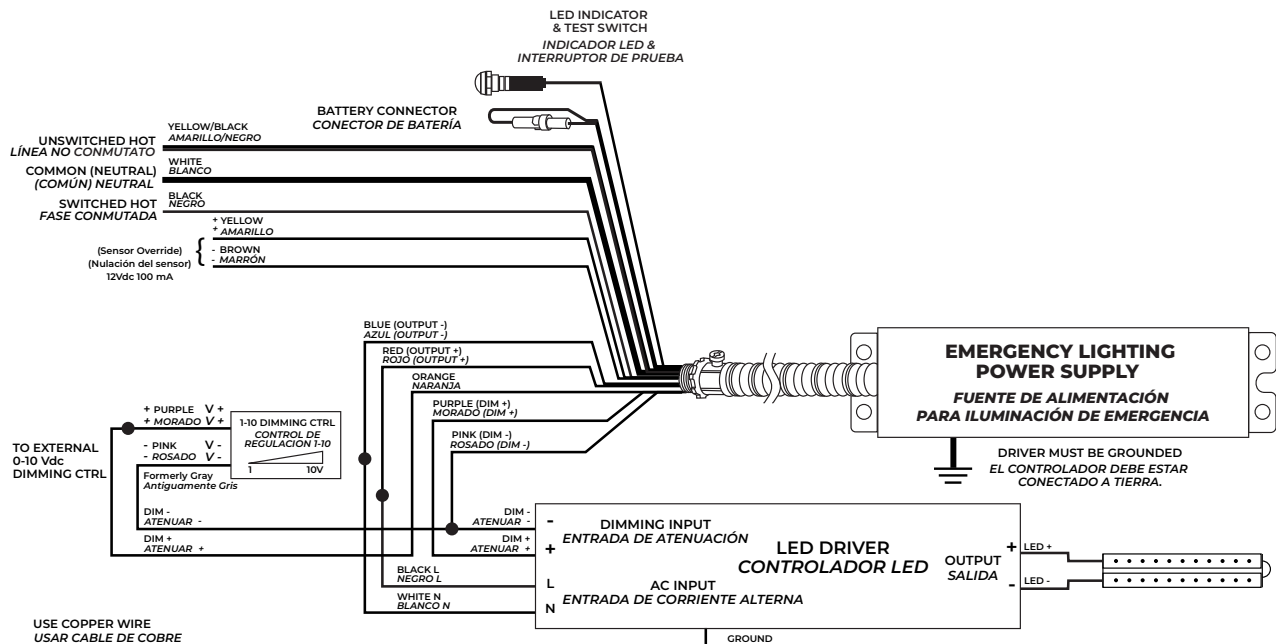


## WIRING DIAGRAMS ACE-H10DC180CPO, ACE-H7DC180CPO, ACE-H14DC180CPO:

### WIRING DIAGRAM FOR OPERATING ONE SINGLE FIXTURE DIAGRAMA DE CABLEADO PARA OPERAR UNA SOLA LUMINARIA

### A. WITH DIMMABLE LED DRIVER WITH EXTERNAL DIMMING CONTROLLER

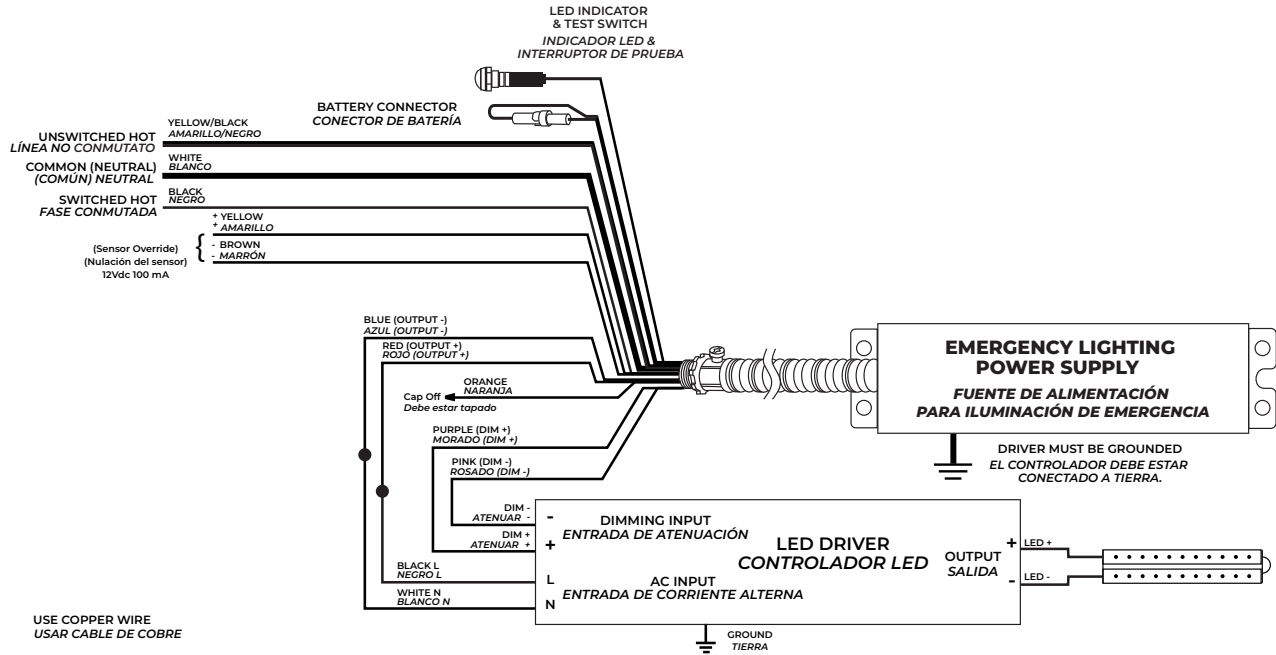
### A. CON CONTROLADOR LED REGULABLE CON CONTROLADOR DE ATENUACIÓN EXTERNO



# INSTALLATION INSTRUCTIONS

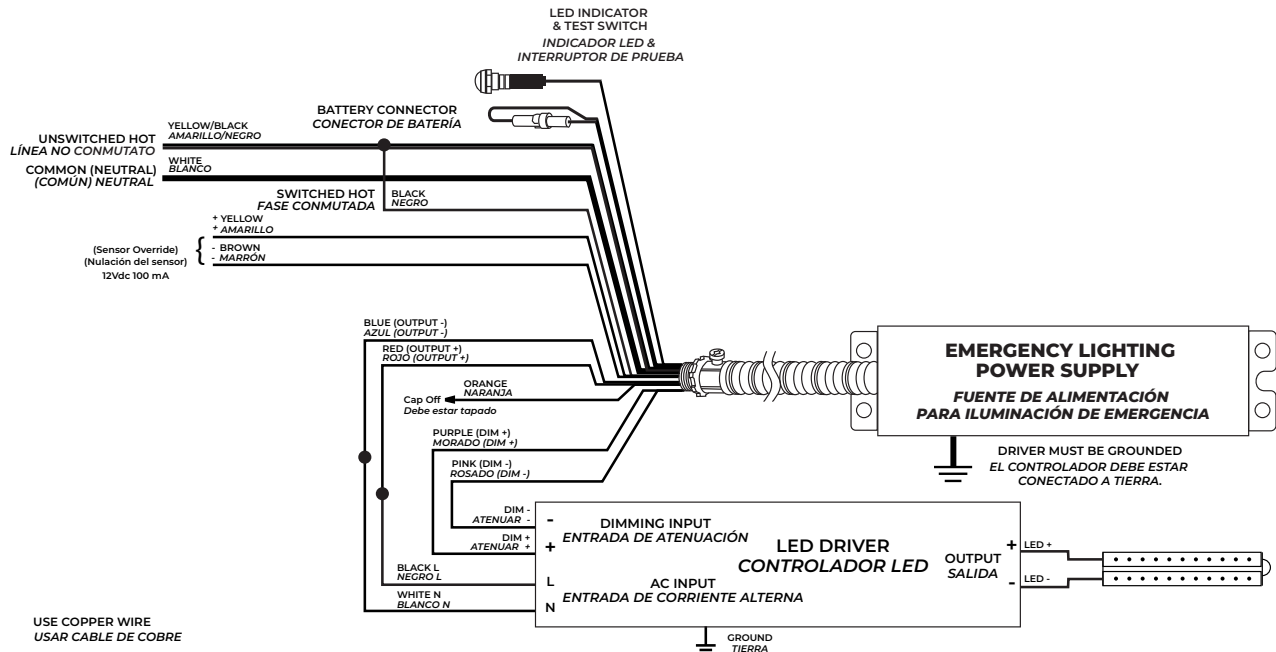
## WIRING DIAGRAMS ACE-H10DC180CPO, ACE-H7DC180CPO, ACE-H14DC180CPO CONTINUED:

### B. WITH DIMMABLE LED DRIVER WITHOUT EXTERNAL DIMMING CONTROLLER B. CON CONTROLADOR LED REGULABLE SIN CONTROLADOR DE ATENUACIÓN EXTERNO



### C. WITH DIMMABLE LED DRIVER WITHOUT EXTERNAL DIMMING CONTROLLER (NOTE: FOR THIS UNSWITCHED LINE APPLICATION, CONNECT THE SWITCHED HOT (BLACK WIRE) TO THE UNSWITCHED HOT (YELLOW/BLACK WIRE).)

### C. CON CONTROLADOR LED REGULABLE SIN CONTROLADOR DE ATENUACIÓN EXTERNO (NOTA: PARA ESTA APLICACIÓN DE LÍNEA NO CONMUTADA, CONECTE LA FASE CONMUTADA (CABLE NEGRO) A LA FASE NO CONMUTADA (CABLE AMARILLO/NEGRO).)



## WIRING DIAGRAMS ACE-H10DC180CPO, ACE-H7DC180CPO, ACE-H14DC180CPO CONTINUED:

- D. FOR APPLICATIONS WITHOUT A DIMMABLE LED DRIVER**  
(NOTE: FOR THIS CONFIGURATION, THE LED DRIVER'S POWER DRAW MUST NOT EXCEED THE EMERGENCY LIGHTING POWER SUPPLY'S OUTPUT POWER RATING.)
- D. PARA APLICACIONES SIN UN CONTROLADOR LED REGULABLE**  
(NOTA: PARA ESTA CONFIGURACIÓN, EL CONSUMO DE ENERGÍA DEL CONTROLADOR LED NO DEBE SUPERAR LA POTENCIA DE SALIDA NOMINAL DEL SUMINISTRO DE ENERGÍA PARA ILUMINACIÓN DE EMERGENCIA).

