

# INSTRUCTIONS

## FIELD-ADJUSTABLE RLB INSTALLATION

# RAB®

RAB Lighting is committed to creating high-quality, affordable, well-designed and energy-efficient LED lighting and controls that make it easy for electricians to install and end users to save energy. We'd love to hear your comments. Please call the Marketing Department at 888-RAB-1000 or email: [marketing@rablighting.com](mailto:marketing@rablighting.com)



RLB-2 / RLB2-2



RLB-3 / RLB2-3



RLB-4 / RLB2-4

### IMPORTANT

#### **READ CAREFULLY BEFORE INSTALLING FIXTURE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

RAB fixtures must be wired in accordance with the National Electrical Code and all applicable local codes. Proper grounding is required for safety.

**WARNING: THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.**

**WARNING: Make certain power is OFF before installing or maintaining fixture. No user serviceable parts inside.**

**WARNING: Risk of fire or electric shock. Luminaire wiring and electrical parts may be damaged when drilling for installation of LED retrofit kit. Check for enclosed wiring and components.**

**WARNING: - Risk of fire or electric shock. Install this kit only in luminaires that have the construction features and dimensions shown in the photographs and/or drawings.**

**WARNING: To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.**

**WARNING: Risk of fire. Input ratings may need to be determined based on any configuration(s) permitted by the installation instructions. Regardless of the configuration(s) of the retrofit kit, the input ratings of the overall retrofit kit shall not exceed the marked input ratings of the host.**

- The installation instructions shall indicate the environmental locations the retrofit kit is suitable for. (*i.e. Damp locations*).
- Prior to installation, review all environmental designation locations in the retrofit kit installation instructions. Only install in damp or wet location if so indicated in the installation instructions.
- **THE RETROFIT KIT IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY AUTHORITIES HAVING JURISDICTION. PRODUCT MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH THE APPLICABLE AND APPROPRIATE ELECTRICAL CODES. THE INSTALLATION GUIDE DOES NOT SUPERSEDE LOCAL OR NATIONAL REGULATIONS FOR ELECTRICAL INSTALLATIONS.**
- For use with surface mounted, wall mounted, recessed non-IC or recessed IC fluorescent luminaires.
- Suitable for closed type luminaires.
- For Models RLB-2FT-20/15/10W and RLB2-2FT-40/35/30/25/20W: "Suitable for use with luminaires with 603 mm (L) x 600 mm (W) x 81 mm (H) lamp compartment.
- For Models RLB-3FT-25/20/15 and RLB2-3FT-45/40/35/30/25W: "Suitable for use with luminaires with 904 mm (L) x 600 mm (W) x 81 mm (H) lamp compartment.
- For Models RLB-4FT-30/25/20W and RLB2-4FT-50/45/40/35/30W: "Suitable for use with luminaires with 1207 mm (L) x 600 mm (W) x 81 mm (H) lamp compartment.
- Only those open holes indicated in these instructions may be made or altered as a result of kit installation. Do not leave any other open holes in an enclosure of wiring or electrical components.
- Installers should examine all parts that are not intended to be replaced by the retrofit kit for damage and replace any damaged parts prior to installation of the retrofit kit
- Suitable for damp locations.
- Suitable for operation in ambient not exceeding 45°C.

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### INSTALLATION

The fixture is suitable for indoor applications.

1. Remove or open the **Fixture Lens** for access the fixture ballast cover as shown in Fig. 1 and 3.
2. **CAUTION: Ensure power is OFF. Disconnect Fixture Ballast from power. Cap Ballast input power wires (Fig. 4).**
3. Remove the old **Fluorescent Tubes** as shown in Fig. 2.
4. Keep the removed **Fixture Ballast Cover** with any screws (Fig. 5).
5. Select **Magnetic Mounting** or **Bracket Mounting** (with screws provided). See instructions below.

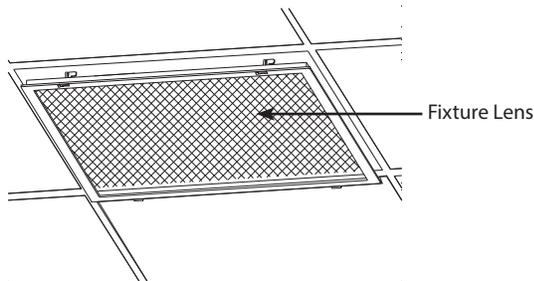


Fig: 2

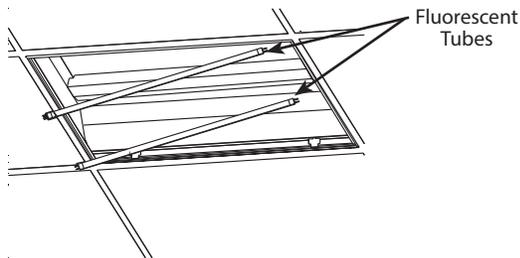


Fig: 3

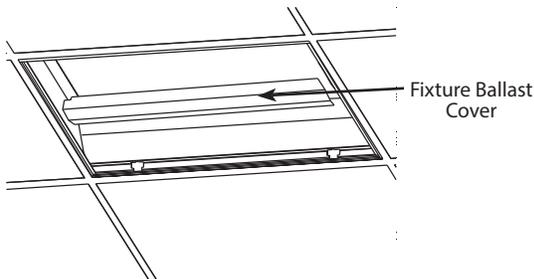


Fig: 4

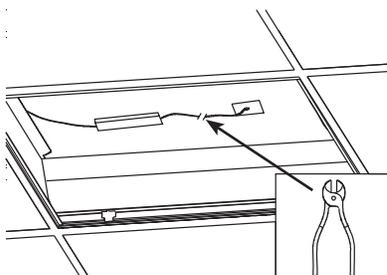
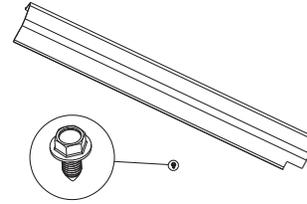


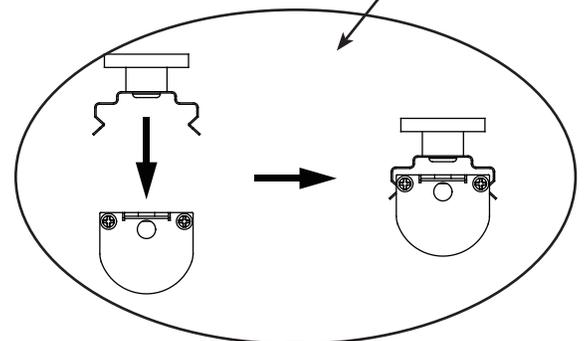
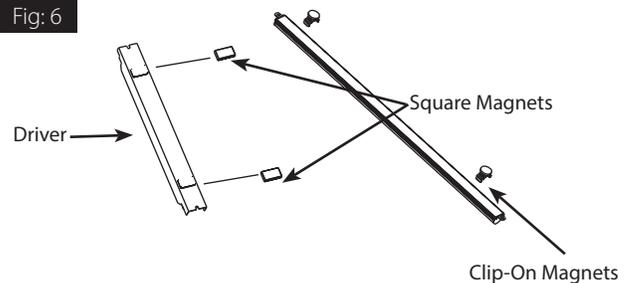
Fig: 5



### MAGNETIC MOUNTING

1. Remove the **Driver Mounting Plate** from the **Driver** and locate the **Square Magnets**. Attach the **Square Magnets** to the LED **Driver**.
2. Attach the **Clip-On Magnets** to the **Light Bars** (Fig. 6).
3. Use **Magnets** to position the **Light Bars** and **Driver** into the Fixture body. Position the **Driver** in the center section of the fixture as shown in Fig. 7.
4. Make electrical connections as shown in wiring diagram, Fig. 17). Use approved wiring connectors and appropriate wiring method and wire to local NEC codes.  
**WARNING: To prevent wiring damage or abrasion, do NOT pinch or expose wiring to sharp objects.**
5. Re-attach the **Fixture Ballast Cover** (Fig. 8).
6. Re-install the **Fixture Lens** to complete the installation (Fig. 9).

Fig: 6



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### BRACKET MOUNTING

1. Insert one end of the **Driver Mounting Bracket** into the Slot and secure the other end with the removed **Screws** (Fig. 10).
2. Secure the LED **Driver** to the **Driver Mounting Bracket** using (2) **Machined Screws** (provided), see Fig. 11.
3. Use the **Clip-on Magnets** or **Screws provided** to position or install the wired **Light Bars** into fixture body (Fig. 12, 13, 14).
4. Make electrical connections as shown in wiring diagram (Fig. 17). Use approved wire connectors.
5. Re-install the **Fixture Ballast Cover** to complete installation (Fig. 15). **WARNING: To prevent wiring damage or abrasion, do NOT pinch or expose wiring to sharp objects.**

Fig: 7

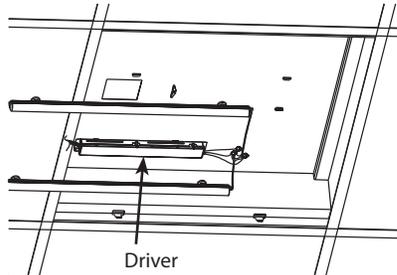


Fig: 8

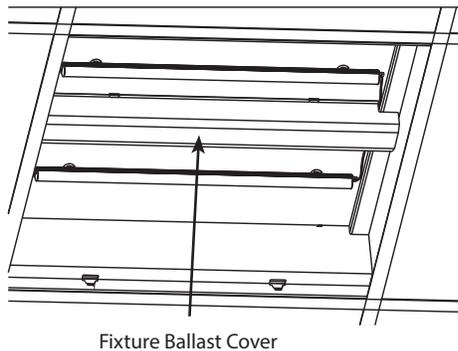


Fig: 9

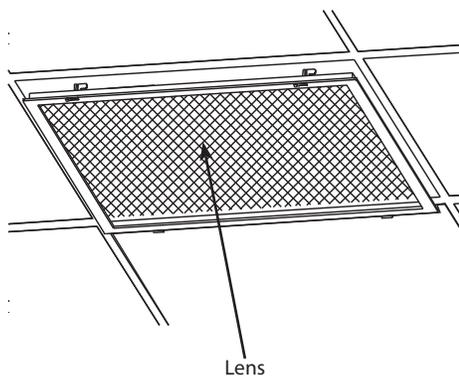


Fig: 10

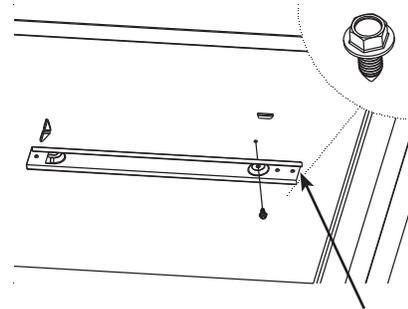


Fig: 11

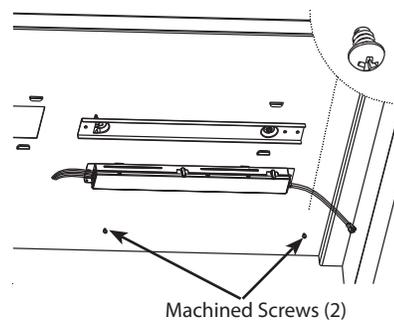
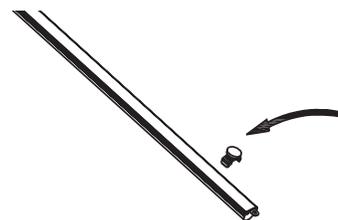


Fig: 12



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Fig: 13

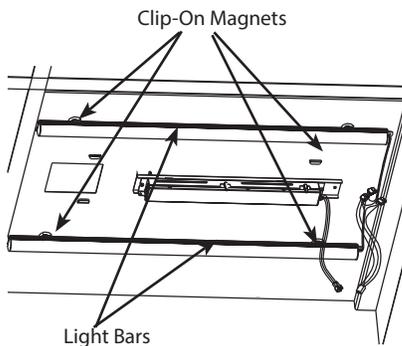


Fig: 14

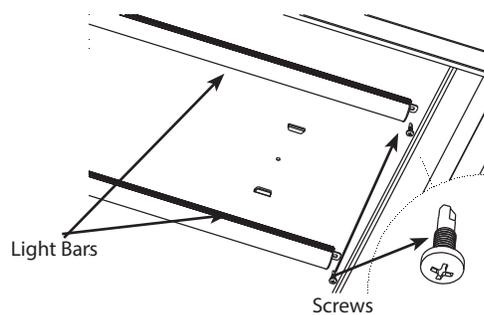
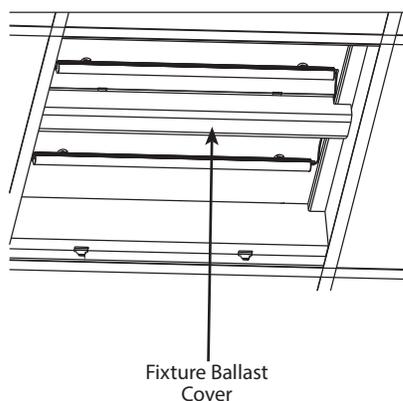


Fig: 15



## FIELD-ADJUSTMENT

Follow instructions below to change Fixture **Color Temperature (CCT)** and/or **Power (W)** from factory settings listed below.

### Color Temperature (CCT) Selection:

This product is equipped with 3000K, 3500K, 4000K, 5000K, 6500K (CCT) **Color Temperature** selection. For maximum light output use the 4000K **Color Temperature**.

### Power (Wattage) Selection:

This product is equipped with power output selection.

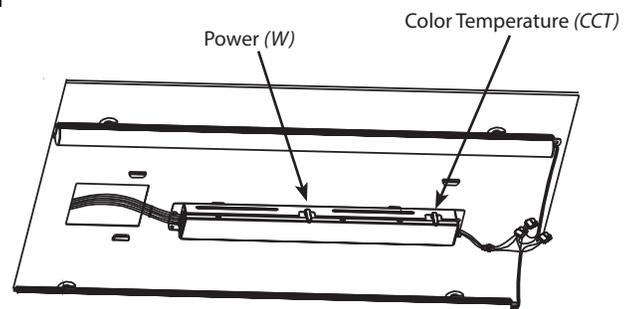
RLB-2	20/15/10W
RLB-3	25/20/15W
RLB-4	30/25/20W
RLB2-2	40/35/30/25/20W
RLB2-3	45/40/35/30/25W
RLB2-4	50/45/40/35/30W

### Factory Settings:

RLB-2	20W / 4000K
RLB-3	25W / 4000K
RLB-4	30W / 4000K
RLB2-2	40W / 4000K
RLB2-3	45W / 4000K
RLB2-4	50W / 4000K

1. Locate **Field-Adjustment Switches** on side of the Driver as shown in Fig. 16.
2. Select **Power (W)** and/or **Color Temperature (CCT)** by sliding the respective switch to the desired setting.

Fig: 16



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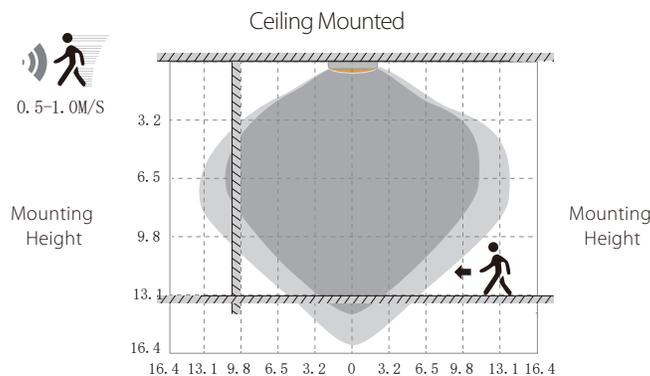
### MVS MODELS (Internal)

(optional remote sold separately for custom settings, CAT# MSR1).

#### Factory Settings:

- Brightness: 100%
- Hold Time: 20 Minutes
- Daylight: Disabled
- Sensitivity: 100%
- Stand-by dimming level: 20%
- Stand-by time: 1 Minute

### MVS MODELS (Internal)



Highest mounting height is 13.1ft

This figure indicates the maximum distance at the highest mounting height with 100% sensitivity.

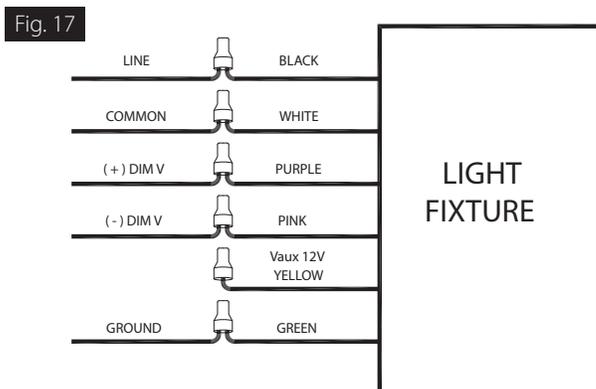
Well Detected Area      Possibly Detected Area

### 0-10V DIMMABLE WIRING

Universal voltage driver permits operation at 120V through 277V, 50 or 60 Hz. For 0-10V dimming follow the wiring directions as shown in Fig. 17.

1. Connect the black fixture lead to the **LINE** supply lead.
2. Connect the white fixture lead to the **COMMON** supply lead.
3. Connect the **GROUND** wire from fixture to supply ground.
4. Connect the purple fixture lead to the (V+) DIM lead.
5. Connect the pink fixture lead to the (V-) DIM lead.
6. Cap the yellow fixture lead if present. Do NOT connect.

**NOTE:** Do not connect DIM V+ (purple)/ DIM V- (pink) to line voltage or supply ground.



### CLEANING & MAINTENANCE

**CAUTION:** Be sure fixture temperature is cool enough to touch. Do not clean or maintain while fixture is energized.

1. Lens can be cleaned with a non-abrasive cleaning solution.
2. Do not open **Light Bars** to clean the LEDs. Do not touch the LEDs.

### TROUBLESHOOTING

1. Check that the line voltage at the fixture is correct. Refer to wiring directions.
2. Is the fixture grounded properly?

**Note:** These instructions do not cover all details or variations in equipment nor do they provide for every possible situation during installation, operation or maintenance.

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### LIGHTCLOUD® BLUE

Lightcloud Blue is a Bluetooth mesh wireless lighting control system that allows you to control various compatible devices. With RAB's patented Rapid Provisioning technology, devices can be quickly and easily commissioned for residential and large commercial applications using the Lightcloud Blue mobile app.

Each device in a system can communicate with any other device, eliminating the need for a Gateway or Hub and maximizing the control system's reach.

Lightcloud Blue devices should be placed within the specified range to communicate within the Bluetooth Mesh network. Up to 60 feet between standard building materials.

**Reset to Factory Settings:** To enable pairing or reset the device, locate the device identification button at the top of the Controller under the Lightcloud logo. Press and hold this button for 10 seconds or until the indicator light begins flashing red and the fixture will flash on/off 3 times.

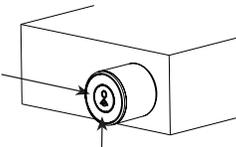
#### LED Indicators:

**Blinking Red** = Looking for a network

**Solid Green** = Connected to network

#### DEVICE IDENTIFICATION BUTTON

- Press once to rapid identify this device in the Lightcloud Blue Application when provisioned
- Press twice to toggle circuit on and off
- Press twice and hold to set dim level
- Press and hold for 10s to reset the device to factory settings and into pairing mode



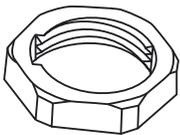
#### STATUS INDICATOR

Solid GREEN when connected to your Lightcloud Blue network.  
Blinking RED when unprovisioned.

### ASSEMBLY

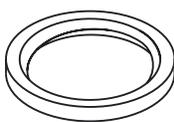
Below accessories are installed on this fixture and should not be removed.

NPT Nut



(Outside)

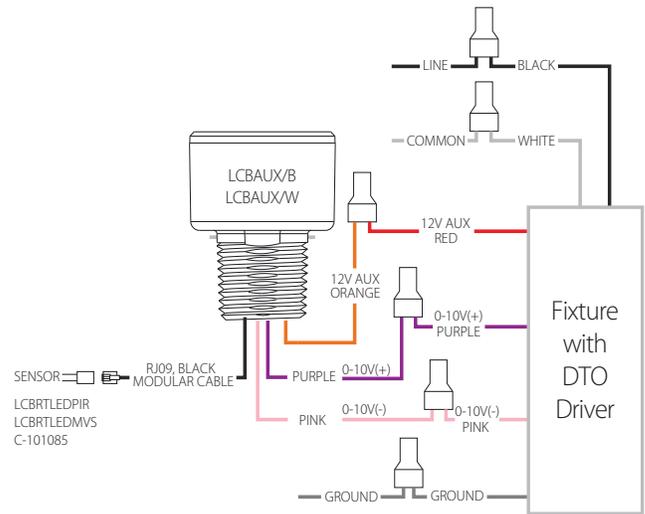
Rubber O-Ring



(Inside)

### WIRING

Lightcloud Blue Low Voltage Controller is compatible with the Dim to Off 0-10V driver with 12V Aux supply, it can be mounted to any 1/2" NPT knockout hole on the fixture or junction box, with the radio module always outside any metal enclosure. If no sensor is used, then the RJ09 cable can be tied off and placed inside the fixture or box.



### LIGHTCLOUD® BLUE SENSORS

Sensors are integrated at the factory and operate in Occupancy mode in their Uncommissioned State. Once paired to the Lightcloud Blue mobile app, the sensor will be disabled. Sensor Settings can be adjusted after being moved into an Area in the Lightcloud Blue mobile app. Once the sensor is enabled in the mobile app, the sensor will respond based on Commissioned State factory settings.

#### Factory Settings: Uncommissioned State

- Sensor Status: Enabled
- Motion Sensitivity: High
- Brightness when triggered: 100%
- Hold time: 20 Minute
- Daylight harvesting: Disabled

#### Factory Settings: Commissioned State

- Sensor Status: Disabled.
- Motion Sensitivity: High
- Brightness when triggered: Last on status
- Hold time: 20 Minute
- When vacant: Off
- Daylight harvesting: Disabled

# INSTRUCTIONS

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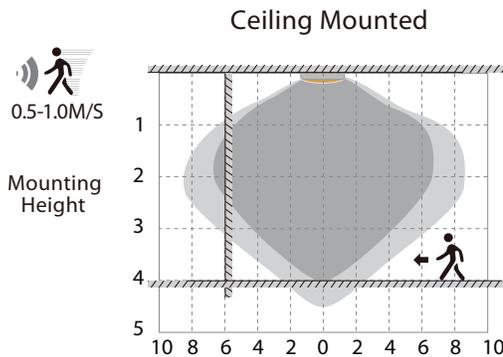


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### SENSOR COVERAGE

Highest mounting height is 4m.

This figure indicates the maximum distance at the highest mounting height with 100% sensitivity.



### CONTROLLING LIGHTCLOUD® BLUE DEVICE

1. Confirm your device is powered on.
2. Download the Lightcloud Blue app from the Apple® App store or Google Play™ store.
3. Launch the App and create an account or login.
4. Tap the "add device" icon in the app to start connecting devices.
5. Create Areas, Scenes and Schedules to organize and control your devices.
6. You're all set!

For additional information about the Lightcloud Blue mobile app visit [www.lightcloud.com/item/lcb-getting-started/](http://www.lightcloud.com/item/lcb-getting-started/)

### CONFIGURATION

To configure the Lightcloud Blue please login to the Lightcloud Blue app for details. For additional startup information, visit [www.lightcloud.com/item/lcb-getting-started/](http://www.lightcloud.com/item/lcb-getting-started/)

## MVS OR LIGHTCLOUD BLUE SENSOR INSTALLATION INSTRUCTIONS

MVS or LIGHTCLOUD® BLUE SENSORS ARE SOLD SEPARATELY, MODEL: RLB/MVS & RLB-LCBS/MVS

1. Install the Light Bar and LED Driver as shown above.
2. Use the provided 3M adhesive or provided self tapping **Screws** to secure the **Sensor** and **Connecting Block** (Fig. 18, 19). Remove the **Ballast Cover** and make electrical connections as shown in wiring diagram (Fig. 21). Use approved wire connectors and appropriate wiring method and wire to local NEC codes. Be careful not to pinch wires.
3. Use the provided 3M adhesive or provided self tapping Screws to secure LIGHTCLOUD BLUE Controller and connect to the Connecting Block (Fig. 18, 19).
4. After connecting, bundle the wires together with cable ties (*by others*) and place them within the covered area of the Fixture Ballast Cover. This ensures the wires will not be exposed externally once the Fixture Ballast Cover is installed (Fig. 20).
5. Re-install **Fixture Ballast Cover**, Fig. 20.

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Fig. 18

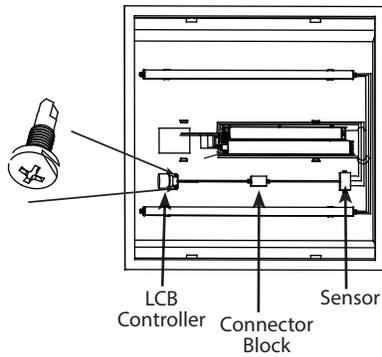


Fig. 19

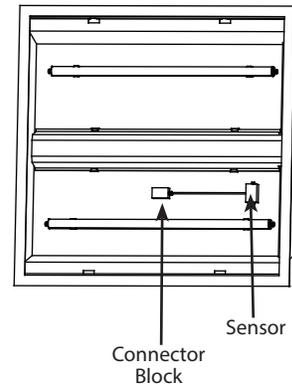


Fig. 20

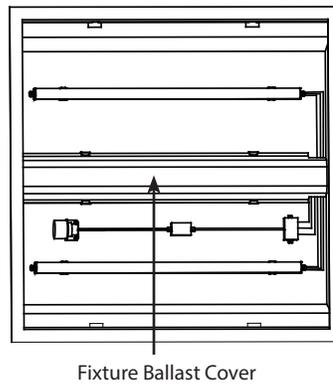
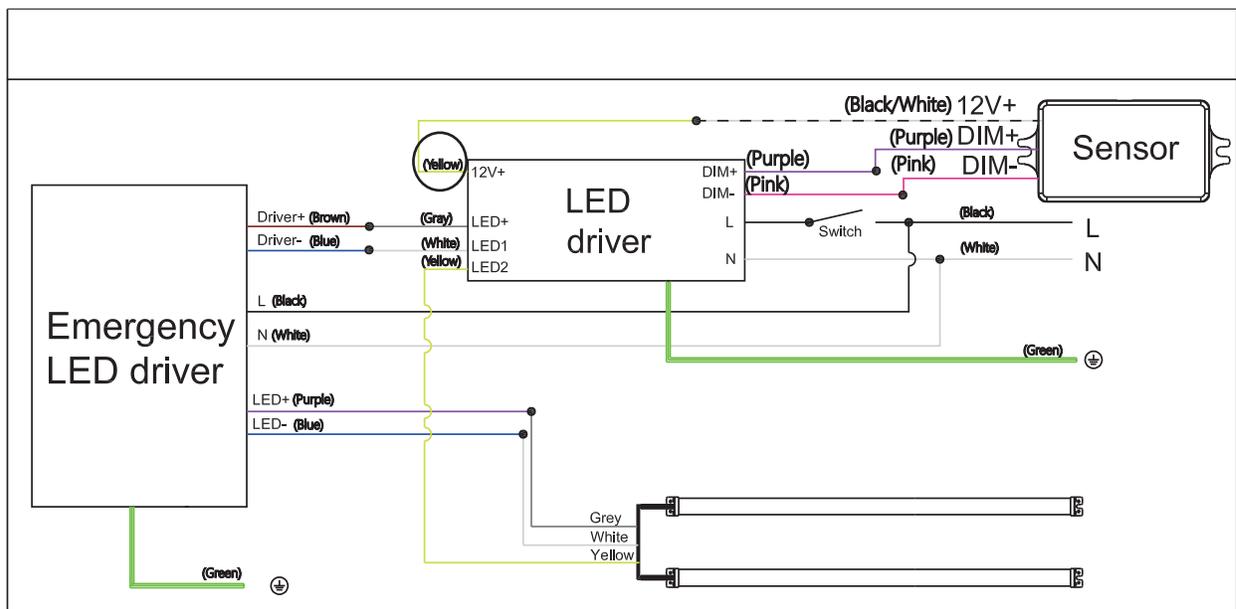


Fig. 21



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# BATTERY BACKUP MODELS

## BATTERY BACKUP INSTALLATION

Emergency Battery is ordered separately, Model # RLB/EM.

1. Use wire cutter to cut the wires of the **Light Bar**, Fig. 22.
2. Strip the **Wire Insulation**, Fig. 23.
3. Install the **Light Bar** and LED **Driver** into the fixture panel as shown in Fig. 24.
4. Secure the **Emergency Battery** by using self-tapping **Screws** (*provided*) as shown in Fig. 25.
5. Make electrical connections as shown in wiring diagram (Fig. 27). Use approved wiring connectors and appropriate wiring method and wire to local NEC codes. **CAUTION: To prevent wiring damage or abrasion, do NOT expose wiring to sharp objects.**
6. Re-install **Fixture Ballast Cover** as shown in Fig. 26.

Fig: 24

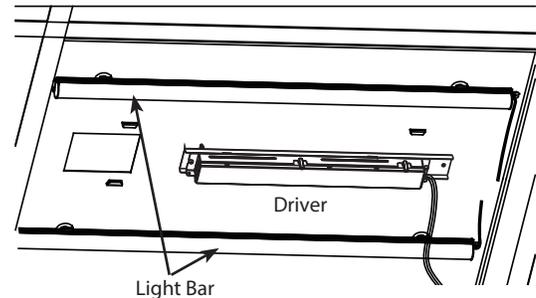


Fig: 25

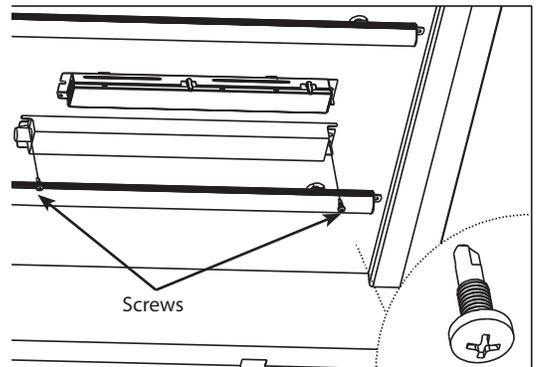


Fig: 22

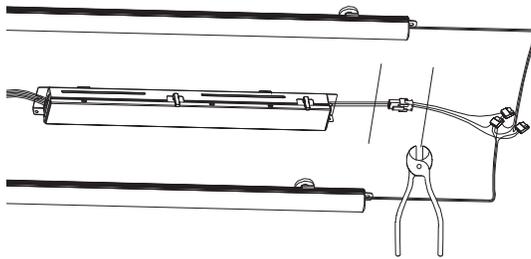


Fig: 23

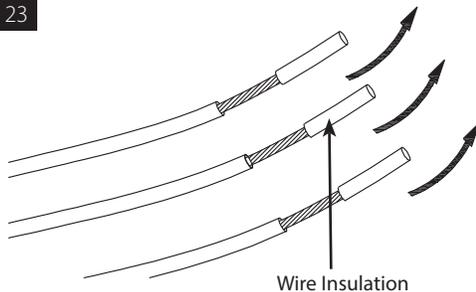
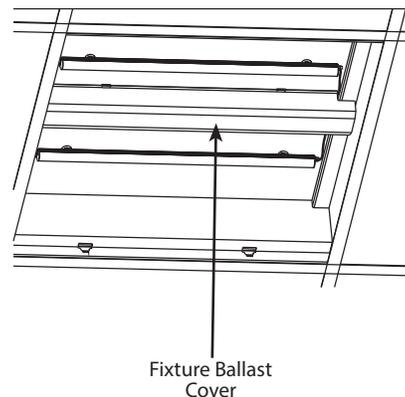


Fig: 26



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# BATTERY BACKUP MODELS

## WIRING

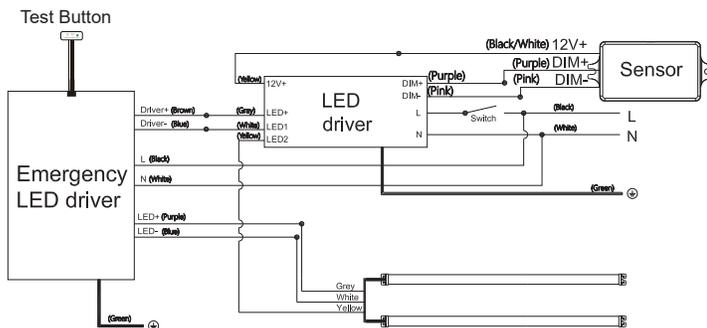
**NOTE:** Make sure that the necessary branch circuit wiring is available. An **UNSWITCHED** AC source of power is required. The emergency driver must be fed from the same branch circuit as the LED driver (Fig. 27).

**CAUTION:** Do not use any supply voltage other than 120-277V 50/60 HZ

**Battery Test Button is provided with adhesive backing. Align the Test Button to the Lens Frame for easy accessibility as shown in Fig. 23.**

1. Connect **UNSWITCHED HOT** fixture lead to **HOT AC** supply line.
2. If using an **UNSWITCHED** circuit, connect **UNSWITCHED** and **SWITCHED** lines together.
3. If using a **SWITCHED** circuit, connect **SWITCHED HOT** AC fixture lead to the external.
4. For 0-10V Dimming connect **DIM (+)** purple and **DIM (-)** pink leads to 0-10V dimming connection.
5. All unused leads must be capped and insulated.
6. **IMPORTANT:** After installation is complete supply AC power and then connect the **BATTERY**.
7. When **Unswitched** and **Switched** power are **ON** the Fixture should be on and the **Charging Indicator Light** will illuminate.
8. Once the **BATTERY** has charged for at least one hour a short duration test may be performed by pressing the **Test Button** (Fig. 28).
9. After the battery has charged for 24 hours a long duration test can be performed by shutting power to the fixture.

Fig: 27



## OPERATION

1. When AC power is applied, the charging indicator light is illuminated, indicating that the **BATTERY** is being charged.
2. When power fails, the standby power automatically switches to emergency power (*internal battery*), operating at reduced illumination. The emergency driver supplies standby power for a minimum of 90 minutes.
3. When AC power is restored, the emergency driver automatically returns to charging mode.

## MAINTENANCE

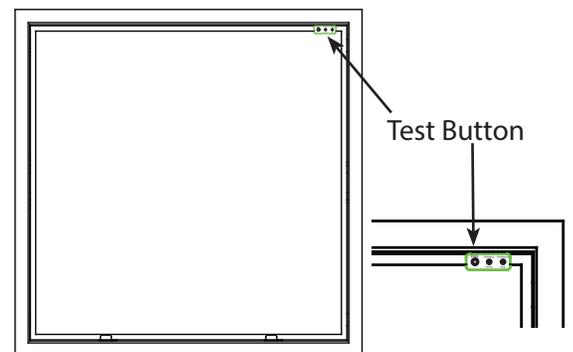
Although no routine maintenance is required to keep the emergency driver functional, it should be checked periodically to ensure that it is working. The following schedule is recommended:

1. Visually inspect the charging indicator light monthly. It should be illuminated.
2. Test the emergency operation of the fixture at 30-day intervals for a minimum of 30 seconds.
3. Conduct a 90-minute discharge test once a year. Fixture would operate at reduced illumination for a minimum of 90 minutes.

## TROUBLESHOOTING

1. Is the fixture grounded properly?
2. If the charging indicator light does not illuminate after pressing the **Test Button** (Fig. 28), check if battery is connected properly.

Fig: 28



**Note:** These instructions do not cover all details or variations in equipment nor do they provide for every possible situation during installation, operation or maintenance.



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