

WARNING — RISK OF ELECTRIC SHOCK, BURN AND INJURY

Disconnect power at the circuit breaker and verify the circuit is de-energized before installing or servicing this luminaire. Lock out and tag the circuit.

Installation must be performed by a qualified electrician in accordance with the National Electrical Code (NEC), NFPA 70, and all applicable state and local codes.

Before installation, consult your local ordinances and building codes for compliance. LAMAR LED assumes no responsibility for misapplication of fixtures.

Do not install a damaged luminaire. Do not modify the housing, driver, LED board, or factory wiring — doing so voids the UL certification and the warranty.

Occu-Smart® fixtures equipped with ultrasonic sensors may not operate properly in areas prone to drafts or exposed to HVAC equipment. Relocate the fixture or the diffuser if the sensor sees moving air.

Proper polarity is critical to normal operation of these units. If polarity is reversed the sensor will appear to be working but nothing will happen.

It is the responsibility of the installer to properly commission these units.

These instructions must be followed for proper operation of this fixture. Save these instructions. This sheet supplements LAMAR LED factory instruction sheet INS-TTU; where the two differ, follow the factory sheet packed with the fixture.

1. Before You Begin

Confirm the following before opening the ceiling or pulling wire. The catalog number on the fixture label is the authority for what was supplied.

- Match the catalog number. Compare the label on the housing to the approved submittal — series, size, power, lens, CCT and options.
- Verify supply voltage. The standard driver is universal input 120–277V. Confirm branch-circuit voltage falls within this range.
- Inspect the shipment. Check the housing, lens, and trims for shipping damage. Report freight damage before installing.
- Confirm the mounting method matches the structure (see table below). Verify the fixture as supplied is configured for the mounting condition on site.
- Verify the supporting structure. Every suspension point must be anchored to building structure adequate for the fixture weight. Confirm the finished mounting height before hanging anything.
- Tools required. Power driver with the appropriate bit, wire strippers, listed wire connectors, tape measure, level, and an appropriate ladder or lift.

Mounting method	Typical application
Stem or Pendant Mounted	Stem-hung applications where a fixed drop is required
Surface Mounted to Ceiling	Direct ceiling mount on a finished or structural surface
Wall Mounted	Direct wall mount

Each method is detailed in Section 5. Confirm which configuration was supplied before starting — mounting styles are not interchangeable in the field.

Mounting options as published: Stem mount or surface mount on ceiling or wall. 2' = 1 LED board, 4' = 2 LED boards. Section dimensions 5.165 in. wide x 4.000 in. deep (1.900 in. to LED board).

2. Prepare the Location

1. Lay out fixture locations from the reflected ceiling plan. Snap lines and confirm the run is square and level before cutting or drilling.
2. On surface-mounted runs, locate framing or install blocking so every fixture lands on structure. Mark mounting holes from the fixture itself rather than from the drawing.
3. For suspended runs, mark and verify every support point against building structure, and confirm the drop height clears doors, equipment, and traffic.
4. Route branch-circuit conductors to each fixture location, leaving 6–8 in. of free conductor. Support the whip or conduit independently of the luminaire.

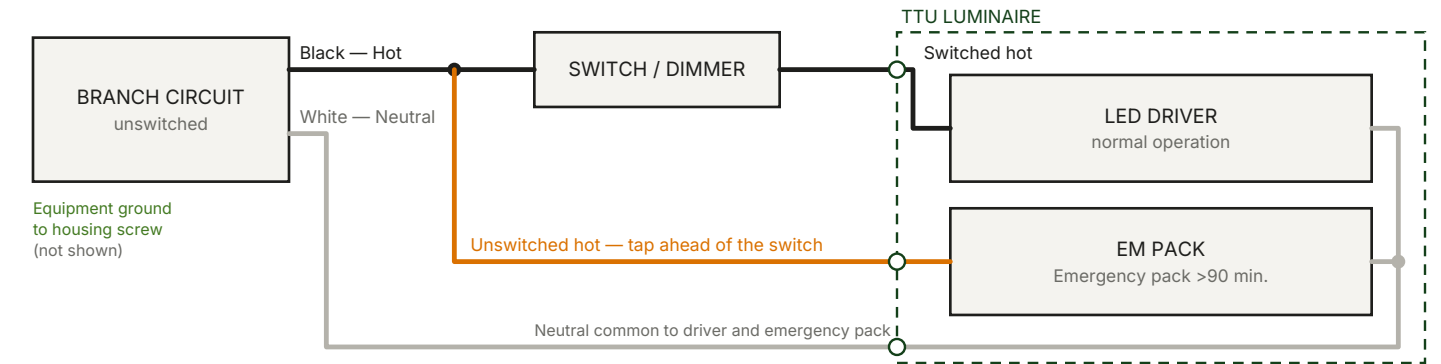
3. Electrical Connection

1. Confirm power is off and locked out.
2. Open the fixture for access per its construction and retain all fasteners.
3. Select the entry closest to the incoming feed. Knockouts are provided for convenient mounting with recessed or surface power feeds.
4. Install a listed connector or fitting in the knockout and bring conductors into the wireway. Protect conductors from the knockout edge.

5. Connect line, neutral, and ground to the corresponding fixture leads using listed wire connectors. Bond the equipment ground to the housing ground screw.
6. Dress all conductors neatly inside the housing so nothing is pinched when the cover is reinstalled.

4. Wiring Diagrams

A. Emergency pack connection (options EM / EMB / EMH)



Schematic; field connections only. Circles mark housing knockouts, each of which needs a listed connector or fitting.

Wire color reference

Conductor	Color	Notes
Line / hot	Black	Branch circuit, 120–277V. Switched hot where a switch or dimmer is used.
Neutral	White	Grounded conductor. Reserved color — never use for control conductors.
Equipment ground	Green or green/yellow	Bond to the housing ground screw. Reserved color — never use for control conductors.
Unswitched hot (EM / EMB / EMH)	Per project drawings	Tap ahead of the switch and dimmer so the pack senses loss of normal power.

5. Mounting

5A. Stem or Pendant Mounted

1. Confirm the finished mounting height and the stem length required, and verify the drop clears equipment, doors, and traffic.
2. Locate structure at each stem point. Each support point must be anchored to building structure and adequate for the fixture weight.
3. Install the stems and canopies, then bring the branch circuit down through the stem or canopy as the assembly is designed for.
4. Hang the fixture, then level it along both axes. Sight the full run and adjust the stems until the run is level and consistent in height.
5. Confirm no conductor is under tension or bearing the fixture weight — the stems carry the load, not the wiring.

5B. Surface Mounted to Ceiling

1. Mark the fixture position and the mounting-hole locations from the reflected ceiling plan.
2. Locate structural framing, or install blocking or an approved anchor suited to the ceiling construction. The fixture must be supported by structure, not by the ceiling finish alone.
3. Bring the branch circuit into the housing through the knockout nearest the feed, using a listed connector or fitting.
4. Fasten the housing tight to the ceiling with fasteners appropriate to the substrate, then confirm it is level and does not rock.

5C. Wall Mounted

1. Establish the mounting height and a level line for the run. In continuous runs, strike one line across the full length so fixtures align end to end.
2. Locate studs or install blocking or an approved anchor suited to the wall construction. The fixture must be supported by structure, not by the wall finish alone.
3. Bring the branch circuit into the housing through the knockout nearest the feed, using a listed connector or fitting.
4. Fasten the housing to the wall, then confirm it is level and tight with no gap at the wall surface.
5. Where the fixture is mounted within reach, confirm the location does not conflict with doors, equipment, or traffic.

6. Lens and Covers

1. Reinstall the wireway cover or access plate with the original fasteners. Confirm no conductor is pinched and the cover is fully seated.
2. Install or reseal the lens or diffuser as supplied. Handle acrylic and polycarbonate by the edges; do not force, flex sharply, or over-tighten against the lens.
3. Remove any protective film and clean fingerprints before closing out the ceiling.

7. Controls and Optional Equipment

Option	Installation requirement
EM — emergency pack	Emergency pack >90 min., >500 lumens. Connect the pack to an unswitched line-voltage source ahead of any switch or dimmer so it senses loss of normal power — see Diagram B. Allow a full 24-hour charge before testing.
Option	Installation requirement
EMB — emergency pack	BABA Compliant Emergency pack >90 min., >500 lumens. Connect the pack to an unswitched line-voltage source ahead of any switch or dimmer so it senses loss of normal power — see Diagram B. Allow a full 24-hour charge before testing.
EMH — emergency pack	Emergency pack >90 min., >1400 lumens (4ft only). Connect the pack to an unswitched line-voltage source ahead of any switch or dimmer so it senses loss of normal power — see Diagram B. Allow a full 24-hour charge before testing.
ESRU — emergency pack	120V/277V emergency shunt relay. Connect the pack to an unswitched line-voltage source ahead of any switch or dimmer so it senses loss of normal power — see Diagram B. Allow a full 24-hour charge before testing.
TTU — sensor	Ultrasonic motion sensor with adjustable standby, integral to series; 5 minute walk test mode; standby levels 10, 25 or 50%; time delay 1, 5 or 20 minutes. Factory-set standby level. Confirm the setting matches the project requirements and walk-test the fixture before close-out. Change settings only by the method described in the sensor documentation supplied with the fixture.

Universal voltage 120-277V standard. Custom driver tuning available for specific lumen requirements. Tuned fixtures are factory-set and must not be adjusted in the field. Contact the factory for options not shown.

8. Occu-Smart® Sensor Commissioning

This fixture uses an advanced omni-directional 40 kHz ultrasonic Doppler occupancy sensor. It detects movement in the controlled area and switches the lighting to 100% on occupancy. The adjustable time delay holds the lights on for a set period; if no motion is detected during that period the light turns off or drops to the standby level. Commission the sensor after the fixture is mounted, wired, and energized.

8A. Sensor Specifications

These ratings apply to the internal sensor circuit board and power pack only.

Parameter	Rating
Input voltage	12–24 VDC
Current consumption	45 mA sensor (70 mA with BLE)
Maximum current output	100 mA, up to 50 LED sink drivers
Ultrasonic frequency	40 kHz
Sensitivity adjustment	Trimpot, min to max
Time delay adjustment	1 minute to 20 minutes
Operating temperature	–30°C to +70°C
Operating humidity	90–95% non-condensing at 30°C

8B. Trimpot Adjustment (detection range and time delay)

The adjusting screws are delicate. Make adjustments carefully and use only a small Phillips driver for sensitivity adjustments. Do not turn a screw past its Min or Max setting — damage will occur by turning past the limits. NEMA recommends a minimum 15-minute time delay for fixtures that are cycled on and off, to prolong service life.

1. Trimpot #1 (left) — detection range / sensitivity. Fully counter-clockwise = Low; center = Medium; fully clockwise = High. Turn clockwise to increase sensitivity.
2. Trimpot #2 (right) — time delay. Fully counter-clockwise = 1 minute; center = 5 minutes; fully clockwise = 20 minutes. Turn clockwise to increase.
3. Test button. Pressing it sets the time delay to 5 seconds and runs for 5 minutes. The red motion LED flashes twice when test mode starts. After 5 minutes, or on a second press, the LED flashes three times and the sensor returns to the programmed time delay and dim level.

8C. Bi-Level Dimming

A 0-10V output from the sensor connects to the 0-10V control input on the LED driver. When motion is detected the sensor brings the lighting to 100% lumen output. When no motion is detected for the length of the selected time delay, the sensor sends a signal to dim the lighting to the standby level set below.

8D. Standby Light Level (dipswitches)

Set the two on-board dipswitches to the standby dim level the owner wants.

Dipswitch 1	Dipswitch 2	Standby dim level
OFF	OFF	10%, OFF, or 0%, depending on model of fixture
OFF	ON	10%
ON	OFF	25%
ON	ON	50%

8E. Sensor Operation

On initial power-up the sensor turns on to 100% and then dims to OFF after 20 seconds. After that it runs on the programmed time delay and dim level. In normal operation the sensor goes to 100% on motion, then dims to the dipswitch level once the Trimpot #2 time delay expires, and holds that level indefinitely until motion occurs again — the light will not turn off unless the fixture is an on/off model.

9. Start-Up Check and Maintenance

- Restore power and confirm the fixture energizes at full output.

- Allow a full 24-hour charge, then test emergency units by interrupting normal power and confirming transfer to the emergency pack for the rated duration.
- Verify sensor coverage and walk-test each sensor. Confirm time delay and sensitivity settings match the project requirements, and that nothing obstructs the sensor.
- Sight the finished run for level, alignment, and consistent lens appearance; confirm color temperature is uniform across all fixtures.
- No routine relamping is required — the LED board and driver are the serviceable components. Disconnect power before any service.
- Clean the lens with a soft cloth and mild soapy water only. Do not use ammonia, solvents, or abrasive cleaners on acrylic or polycarbonate.
- Warranty: 5 years - part replacement only (see our terms & conditions page at www.lamarled.com for details). Listings and ratings as published: Fixtures are U.L. Certified and Union made in the USA, All electrical components are U.L. listed or recognized.

10. Troubleshooting

Check the following before calling the factory.

- Verify the fixture is properly earth grounded — use a meter. Do not assume the ground is good.
- Verify polarity. If reversed, the sensor will appear to be working but the light will not respond.
- Check for loose connections. Confirm the driver wires are inserted into the LED boards and that the LED boards are plugged into the driver leads. If the unit has a Watt Stopper power pack, check the leads into the power pack and the driver disconnect as well.
- Confirm there is actually power at the fixture. The unit is designed to operate at 120–277V only.
- If equipped with an emergency battery pack, ensure the separate battery module is connected to the emergency LED driver.

QUESTIONS OR APPLICATIONS NOT COVERED HERE

Contact LAMAR LED at 631.777.7700 or visit www.lamarled.com. Due to the rapid advancements in LED technology, please consult our website for the most current technical data.