

LightGrid Internal Node

Outdoor Wireless Control System

2.x Series



BEFORE YOU BEGIN

Read these instructions completely and carefully.

FCC Statements:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To satisfy FCC/ISED RF exposure requirements a separation distance of 20 cm or more must be maintained between the antenna of this device and persons during operation. Operation at closer than 20cm is not permitted.

CAN ICES-005 (B)/NMB-005 (B)

This device complies with part 15 of the FCC rules and with Innovation, Science and Economic Development Canada's license-exempt RSS(s) standards. Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation.

Cet appareil est conforme aux parties 15 des règles de la FCC et aux flux RSS exemptées de licence d'Innovation, Sciences et Développement économique Canada. Son fonctionnement est soumis aux deux conditions suivantes:

- Cet appareil ne doit pas provoquer d'interférences
- Cet appareil doit accepter toutes les interférences, y compris les interférences, y compris les interférences pouvant entraîner un fonctionnement indésirable de l'appareil.

Pour être conforme aux limites d'exposition aux ondes RF des normes FCC/ISED, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toute personne pendant son opération. Mettre en opération cet appareil à une distance plus rapprochée que 20 cm n'est pas permis.

⚠ WARNING

RISK OF ELECTRIC SHOCK

Disconnect power before servicing or installing product.

RISK OF INJURY OR DAMAGE

Unit will fall if not installed properly. Follow installation instructions. Install in accordance with National Electric Code and local codes.

USE NODE ONLY WITH LED AND HID LUMINAIRES

Rated up to 1000VA. Using node with any other device may void warranty

UNPACKING

Carefully unpack unit from its packaging. Properly inspect for defects before installing.

⚠ CAUTION

RISK OF INJURY

Wear safety glasses and gloves during installation and servicing.

RISK OF CHANGES OR MODIFICATIONS

The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Product Certifications

Internal node:

FCC ID: 2AS3F-90004

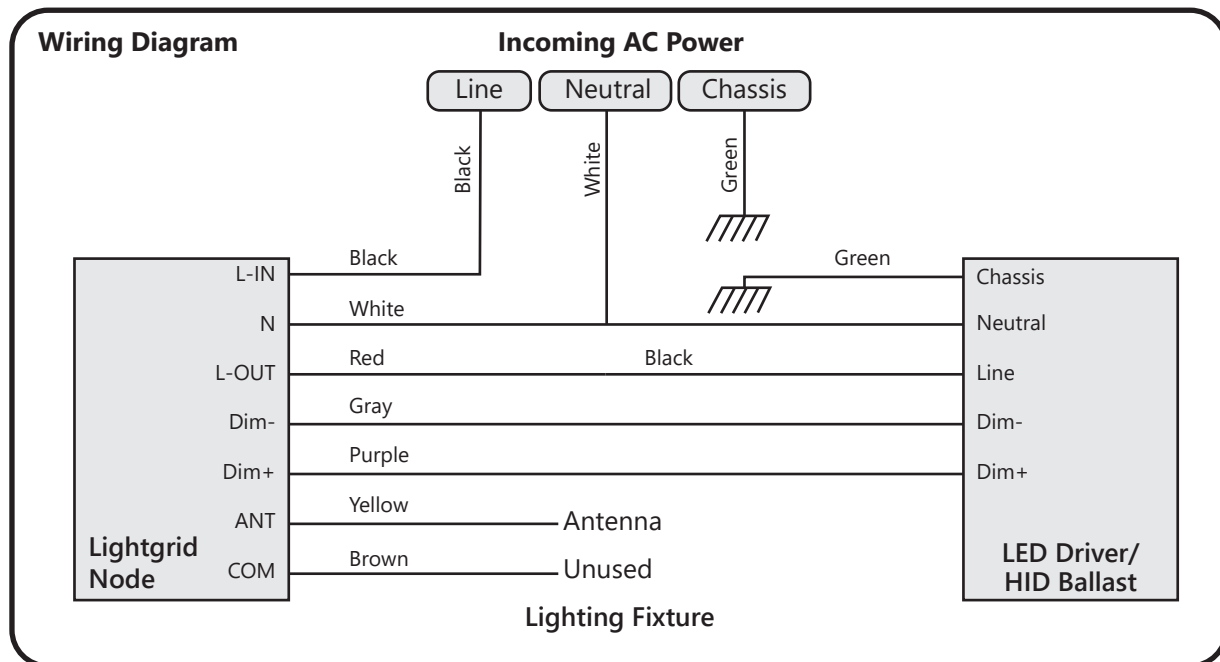
ISED ID: 25008 -90004

Before Installation

- **Carefully unpack unit.** Inspect for defects before installing.
- **Check Electrical parameters.** Ensure that the fixture operating wattage is below 1000W, and the voltage at the fixture is within the allowed range of the Controller. Using controller outside these parameters will void its warranty.
- **Validate Fixture Approval with Current.** Prior to integrating the Internal Node in any fixture, Current strongly recommends validation testing of the design to ensure LightGrid performance.

Wiring the Node into a Fixture

- 1 **Required Supplies.**
 - LightGrid Internal Node
 - Luminaire
 - #10 mounting Screws of suitable type and length (recommended)
- 2 **Following the Wiring Diagram, perform the following steps:**
 - Connect the L-In (black) of the node to the line (black) of the fixture.
 - Connect L-Out (Red) of the node to Line of the driver
 - Connect the neutral (white) of the node to the neutral (white) of the fixture
 - Connect the neutral (white) of the LED Driver/HID Ballast to the neutral (white) of the fixture



- 3 **For dimmable fixture, please perform the following extra steps:**
 - Connect the Dim- (grey) of the node to the negative dimming wire of the LED Driver/HID Ballast.
 - Connect the Dim+ (violet) of the node to the positive dimming wire of the LED Driver/HID Ballast.

⚠ WARNING

RISK OF DAMAGE ON NODE

Risk of damage on the node or fixture if all wiring instructions are not respected.

WIRING SET UP

All wiring setup should conform to NFPA70: National Electrical code and CSA-22.

Physical Integration within a Lighting Fixture

Node Location & Installation

- The location of the node inside the fixture must be selected to keep the node as far away as possible from sources of heat or electrical interference, such as the lamp ballast/driver/power supply, or the light bulb or LED panel and its heatsink. Never install the node directly above these; The preferred location is in the lower part of the fixture below any source of heat.
- Record the location the Internal Node is installed (since it doesn't have GPS), this can be done by either manually recording it or using the Current commissioning app that is available on iOS to ensure the node is positioned in current location on the map view.
- Ensure the node location provides a secure and robust mounting support surface with 2 appropriately positioned screw hole locations.
- Attach the node into the fixture using 2 screws using both holes provided on opposite sides of the node.

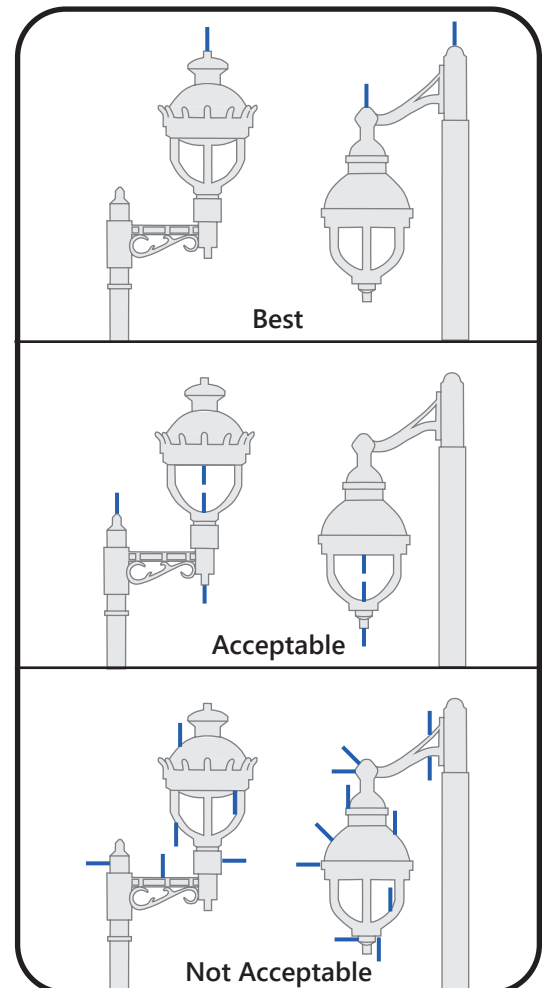
Important Notes:

- All unused wires must be removed (cut flush with the housing) or isolated electrically (using a wire nut and/or electrical tape or heat-shrink tubing).
- Do not attempt to open the node housing or alter any part of the node.
- It is the integrator's responsibility to ensure the temperature rating of the node is never exceeded; Make certain that the ambient temperature around the node in its selected location can never exceed 50 degrees Celsius.
- The node by default will be ON until schedule is downloaded to the node from the CMS.

RF Antenna Location & Installation

- To select the optimum antenna mounting point, read the following and refer to the illustrations (right) showing examples of the best, acceptable, and unacceptable locations and orientations.
- The antenna must be mounted on a conductive (metal) surface. If the fixture is of non-conductive construction (such as plastic), the inner surface where the antenna is to be installed should be lined with a thin metal sheet or foil (such as copper foil tape) approximately 6" to 12" diameter, with the antenna installed through the center of this metallized area.
- The antenna is to be installed through a 12mm diameter hole drilled through the outer surface of the lamp fixture housing. The mounting surface around this hole must be perfectly smooth, flat, and free of any burrs to insure a watertight seal when installed.
- The antenna mounting surface thickness should be from 1mm to 6mm thick at the point where the hole is drilled.
- The antenna is not detachable from the node; A suitable location for both the node and antenna must be found which allows the antenna and its wire to be routed from the node installation point, to where it can be passed through the antenna mounting hole from the inside of the fixture.
- When installing the antenna, make sure the supplied O-ring is retained in the groove in the base flange of the antenna (on the inner surface of the lamp housing). The plastic nut is then threaded onto the antenna shaft on the outside of the fixture and tightened, being very careful not to overtighten. Insure the O-ring is compressed but not displaced from its groove to prevent water ingress.
- The antenna must be installed vertically with respect to the ground. Therefore, the surface it is mounted to must be horizontal. If the most suitable location is not perfectly horizontal at the point where the antenna is mounted, bevel washers may be used on either side of the mounting hole to insure the antenna will be perfectly vertical when installed.

Antenna Locations

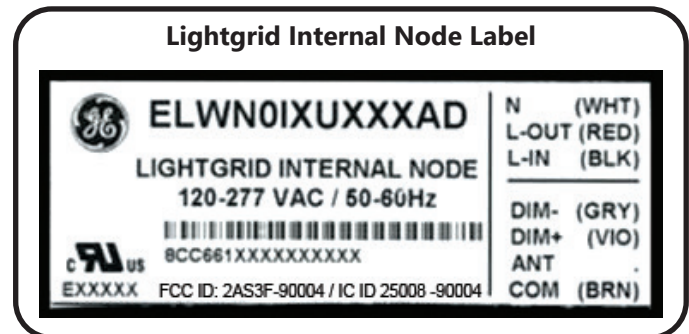


RF Antenna Location & Installation

- The selected location of the antenna on the outside of the fixture must be free of any significant conductive (metal) obstruction horizontally, 360 degrees around it, measured from the base of the antenna where it meets the lamp fixture surface, to at least 12" above this surface. Plastic or glass features will not affect the antenna if they are at least 1-2cm away from it.
- The preferred location for the antenna on the fixture is generally the highest point on the upper surface of the fixture, centered on this mounting surface.
- On hanging fixtures supported from above, the antenna may be mounted pointed downward, at a suitable location on the lower surface of the fixture housing.

Labels

- The Internal Node is supplied with 3 identical labels. One label is affixed on the node housing. The other two labels packaged with each node are to be affixed on a visible location on the exterior of the fixture and/or the base of the pole, for commissioning purposes.
- The MAC address of each node is printed on the label both as barcode & plain text.



Validation Testing

Non-Dimmable Fixture: To verify the installation of Lightgrid Internal Node, please follow these steps:

- Apply AC power to the fixture (120- 277V, 50/60 Hz)
- If the installation has been done as per instructions in section Wiring, the light will turn off briefly during the first 60 seconds after power is applied.

Dimmable Fixture: To verify the installation of Lightgrid Internal Node, please follow these steps:

- Apply AC power to the fixture (120- 277V, 50/60 Hz)
- If the dimming wires are installed as per instructions in section Wiring, the light level will visibly dim within the first 60 seconds after power is applied and then return to full brightness.

Questions

- Email: lightgridsupport@gecurrent.com
- Leave a Voicemail: 1-877-843-5590