

Athena Wireless Node

The Athena wireless node is a radio frequency (RF) device that enables simple, digital control of individual light fixtures in an Athena control system. The small size and compatibility with a wide variety of drivers allow for seamless integration with common commercial lighting fixtures from any manufacturer.

The Athena wireless node works with the following LED driver types:

Tunable-White Control	<ul style="list-style-type: none"> • Lutron digital LED drivers (coming soon) • DALI-2 certified Type 8 LED drivers
Static-White Control	<ul style="list-style-type: none"> • Lutron digital LED drivers (coming soon) • DALI-2 certified LED drivers • ANSI C137.1 compliant 0–10 V\Rightarrow LED drivers

The Athena wireless processor or Clear Connect gateway – Type X is required to operate an Athena wireless node in an Athena control system via a simple setup process using an iOS® or Android® compatible app. This enables these fixtures to be controllable by other Lutron wall controls, keypads, sensors, Pico remote controls, etc.

Models

Model Number	Description
A-WN-D01-RF-WH	Athena wireless node (RF only) (White)
A-WN-D01-RF-BL	Athena wireless node (RF only) (Black)
A-WN-D01-OCC-WH	Athena wireless node with sensor (White)
A-WN-D01-OCC-BL	Athena wireless node with sensor (Black)
DFC-OEM-DBI	Fixture control digital link interface

Features

- Enables individual, wireless control of each fixture in an Athena control system. Accommodates zone and control changes without rewiring.
- Typically installed at OEM factory – no wiring required on-site. Fixture is ready to communicate wirelessly once power is connected.
- Pairs with Lutron digital LED drivers (coming soon) for either Tunable White or Static White control.
- DALI-2 and ANSI C137.1 compatible for simple interoperability with third-party LED drivers.
- All drivers on the link are controlled as a single zone.



Athena Wireless Node RF Only (White)



Athena Wireless Node Sensor (White)



Athena Wireless Node RF Only (Black)



Athena Wireless Node Sensor (Black)

- **A-WN-D01-RF**
 - Plenum rated and can be installed above the ceiling for wireless control of a fixture without any impact on fixture aesthetics.
- **A-WN-D01-OCC**
 - Provides wireless control of the fixture and includes a passive infrared (PIR) sensor for occupancy and a daylight sensor.
- **DFC-OEM-DBI**
 - Can be used in-fixture to power the Athena wireless node when used with DALI-2 and ANSI C137.1 compliant 0–10 V \Rightarrow drivers without integrated power supplies.

Job Name:	Model Numbers:
Job Number:	

Specifications

A-WN-D01 Features

Regulatory Approvals

- cULus Listed (UL916)
- UL 2043 Plenum Rated
- FCC compliant with the limits for a Class B digital device
- IC (Industry Canada)
- ANSI C137.1 0–10 V_{ac} Electronic Off
- D4i certified
- Supports DALI-2 Type 8 tunable-white color temperature (T_c) applications - IEC 62386-209 ed.1 *

Power/Load

- IEC SELV/NEC® Class 2
- Operating voltage: 9.5–28.8 V_{ac}
- Operating current: 46 mA max
- See page 5 for power supply requirements for DALI or 0–10 V_{ac} driver selection

Colors

- Available in white and black flange only
- Note:** The occupancy sensor dome is white on both the white and black sensor models for the A-WN-D01-OCC

Environmental

- Ambient operating temperature (immediate vicinity of Athena wireless node): 32 °F to 131 °F (0 °C to 55 °C), 0% to 90% humidity, non-condensing; indoor use only

Warranty

- 5 Year Limited Warranty.
For additional Warranty information, please visit:
https://www.lutron.com/TechnicalDocumentLibrary/3601462_ENG.pdf

Wiring

- 4-position screw terminal for 26 AWG to 18 AWG (0.20 mm² to 0.75 mm²) wire
- For Lutron digital LED drivers (coming soon) and D4i/DALI-2 drivers, only (2) wires are required
- For 0–10 V_{ac} drivers, all (4) wires are required
- See pages 8 and 9 for complete wiring diagrams

Mounting

- Mounts to a lighting fixture
- Fits Zhaga Specification Book 20 hole size: 0.859 in to 0.906 in (21.8 mm to 23.0 mm) diameter
- Fits in standard ½ in trade size knockout (0.875 in [22.5 mm] diameter knockout nominal)
- Compatible with fixture wall thicknesses of 0.016 in to 0.080 in (0.4 mm to 2.0 mm)

Radio Frequency for Wireless Communication

- 2.4 GHz

Range

- Reference Clear Connect gateway – Type X specification for system details (www.lutron.com/TechnicalDocumentLibrary/3691144_ENG.pdf)
- Each Athena wireless node should be installed within 25 ft (7.62 m) of two or more Athena wireless nodes or other Clear Connect – Type X devices.

* Athena wireless node does not support tunable-white color temperature applications via DALI Type 6 or 0–10 V_{ac}

Job Name:	Model Numbers:
Job Number:	

Specifications *(continued)*

Default Behavior Prior to Programming

- Occupancy (sensor only): Disabled
- Daylighting (sensor only): Disabled
- Light Level: 100%
- Color Temperature
 - Tunable White: 4000 K (or closest fixture color temperature limit)
 - Static White: Default color temperature of fixture
- **Note:** Athena wireless node performs an unprogrammed startup sequence on every power up until the device is added to an Athena system

Occupancy/Vacancy Functionality

- Default timeout: 15 minutes¹
- Minimum timeout: 1 minute¹
- Passive infrared motion detection with exclusive Lutron XCT technology for major and minor motion detection
- 360° field-of-view

Daylight Sensor Functionality

- Daylight sensor has simple, automatic fixture-feedback calibration out-of-the-box that is performed on first vacancy after the sensor is added into an Athena system
- Designed to give a linear response to changes in light level
- Detects ambient light level changes from 0 lx to 1600 lx (0 f_c to 150 f_c)

Digital Features

- Enables individual fixture addressing, control, and configuration in an Athena control system
- Simple programming using mobile device running an iOS® or Android® compatible app when connected to an Athena wireless processor or Clear Connect gateway – Type X in an Athena control system

Wireless Features

- Simplify installation and save materials – no control wire is required to install fixtures
- Simplify design – flexible zoning allows you to re-zone without re-wiring as space needs change

Fixture Level Settings (via Lutron Designer)

- Fixture zoning/re-zoning
- Low-end and high-end trim adjustment
- Minimum light level setting (optional): Certain applications, such as hallways, may require that the lights never turn off. For these areas, select the minimum light level option and the load will lower to programmed low-end level
- Create preset color temperature and intensity settings of tunable white fixtures
- Occupancy sensor timeout and sensitivity
- Occupancy sensor mode (occupancy or vacancy)
- Daylight sensor enable/disable
- Daylight sensor setpoint

Emergency Support/Override & Lockout

- Compatible with LUT-SHUNT-FM. For additional details, reference Lutron Application Note 106 (P/N 048106 at lutron.com)

¹ Timeouts valid once device is programmed in an Athena system. Prior to programming, occupancy functionality is disabled.

Job Name:	Model Numbers:
Job Number:	

Specifications *(continued)*

DFC-OEM-DBI Features

Regulatory Approvals

- cULus Recognized
- NOM
- CE
- DALI compliant

Power/Load

- Operating voltage: 120–277 V~ 50/60 Hz
- Output: 18 V== 60 mA max

Environmental

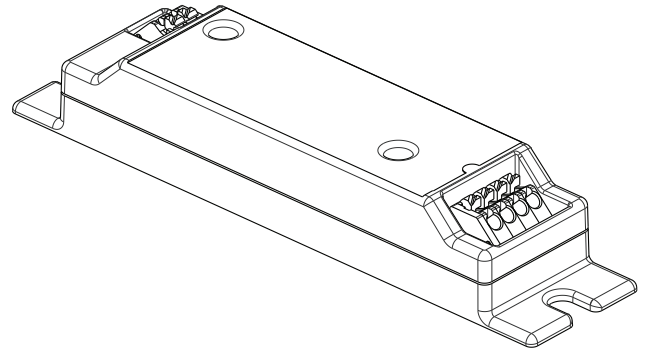
- Ambient operating temperature: 32 °F to 140 °F (0 °C to 60 °C), 0%–90% humidity, non-condensing; indoor use only
- Maximum rated temperature @ (T_C) for Warranty: 70 °C (158 °F)

Warranty

- 5 Year Limited Warranty. For additional Warranty information, please visit https://assets.lutron.com/a/documents/3601201A_Commercial_Limited_Warranty.pdf

Mounting

- Fixture control digital link interface must be mounted inside a fixture (it must not be used for external/remote mounting)
- Only one Athena wireless node can be used per DFC-OEM-DBI



Job Name:	Model Numbers:
Job Number:	

Compatible Drivers *

Athena wireless node is compatible with a wide variety of LED Drivers to maximize design flexibility for lighting designers, engineers, contractors, and lighting manufacturers.

Note: Not for use with fluorescent fixtures.

For Tunable-White Fixtures

- Premier tunable-white control with Lutron digital LED drivers (P2Q Models [coming soon])
- Supports DALI-2 Type 8 tunable-white color temperature (T_c) applications - IEC 62386-209

For Static-White Fixtures

- Premier static-white control with Lutron digital LED drivers (P2Q Models [coming soon])
- Supports DALI-2 static-white applications - IEC 62386-207
- Compatible with ANSI C137.1 compliant 0–10 V_{DC} drivers with electronic off
 - 0–10 V_{DC} max. sink current: 10 mA
 - Controls up to 5 drivers (IEC 60929 Annex E.2 requires the driver to limit current to 2.0 mA maximum)

Note: Athena wireless node uses a linear 0–10 V_{DC} control output. For best dimming performance, it is recommended to pair with a 0–10 V_{DC} driver with a logarithmic dimming curve.

Power Supply Requirements

DALI

- D4i certified LED drivers
- DALI-2 certified LED drivers with an integrated bus supply
- Maximum supply current: 250 mA
 - Athena wireless node supports 1 to 5 DALI drivers depending on the driver's supply current. The sum of bus supply currents of all attached LED drivers should not exceed 250 mA.

0–10 V_{DC}

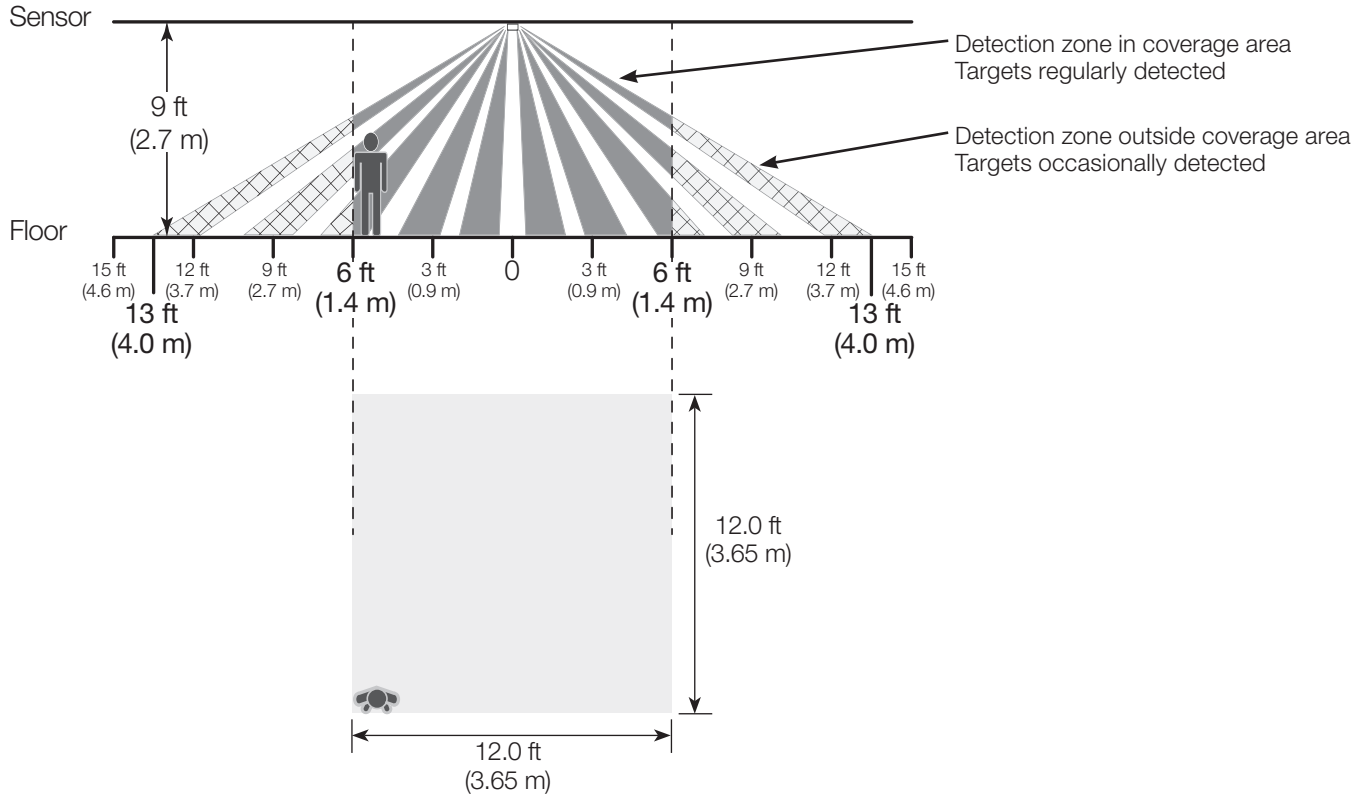
- ANSI C137.1 0–10 V_{DC} drivers with integrated power supply
- Auxiliary output voltage range: 12 V_{DC} to 24 V_{DC}
- Minimum output power: 750 mW

Note: For DALI-2 and 0–10 V_{DC} drivers that do not have an integrated power supply, or one that does not meet the above specifications, the Lutron DFC-OEM-DBI can be used to power the Athena wireless node.

* Lutron does not evaluate performance or quality of third-party drivers. Lutron recommends that the customer evaluate the entire system (driver, light engine, fixture, etc.) together with actual samples to determine if dimming and other performance metrics of the driver meets the customer's needs.

Job Name:	Model Numbers:
Job Number:	

Sensor Coverage



Major motion:

Movement of a person entering or passing through an area.

– 12 ft x 12 ft (144 ft²)(3.65 m x 3.65 m [13.3 m²])^{1,2}

Sensor Coverage vs. Height

12 ft (3.7 m) is the maximum recommended mounting height

Sensor Height	Motion Coverage Area
8 ft (2.4 m)	114 ft ² (10.6 m ²)
9 ft (2.7 m)	144 ft ² (13.3 m ²)
10 ft (3.0 m)	178 ft ² (16.5 m ²)
12 ft (3.7 m)	256 ft ² (23.8 m ²)

Minor motion:

Movement of a person occupying an area and engaging in small activities (e.g., reaching for a telephone, turning the pages of a book, picking up a coffee cup, etc.)

– 12 ft x 12 ft (144 ft²)(3.65 m x 3.65 m [13.3 m²])^{1,2}

¹ Note that this is for the high sensitivity setting.

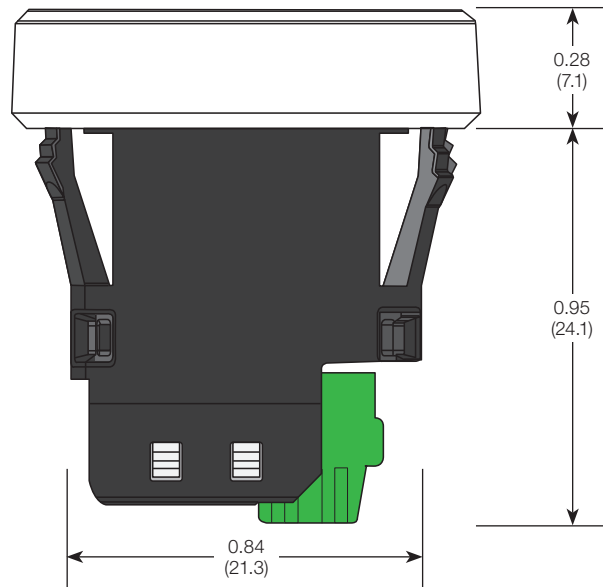
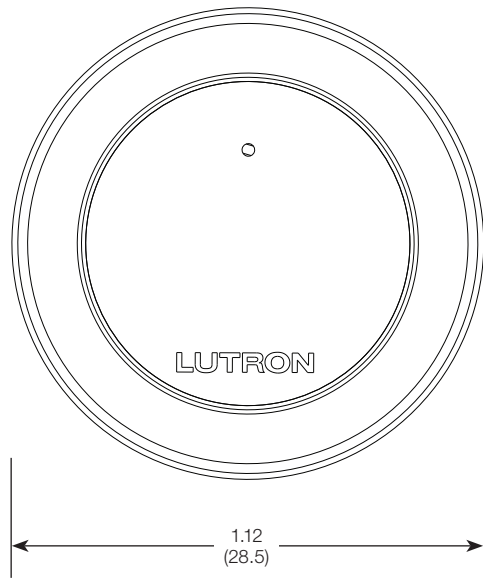
² Lights may turn on outside the coverage area.

Job Name:	Model Numbers:
Job Number:	

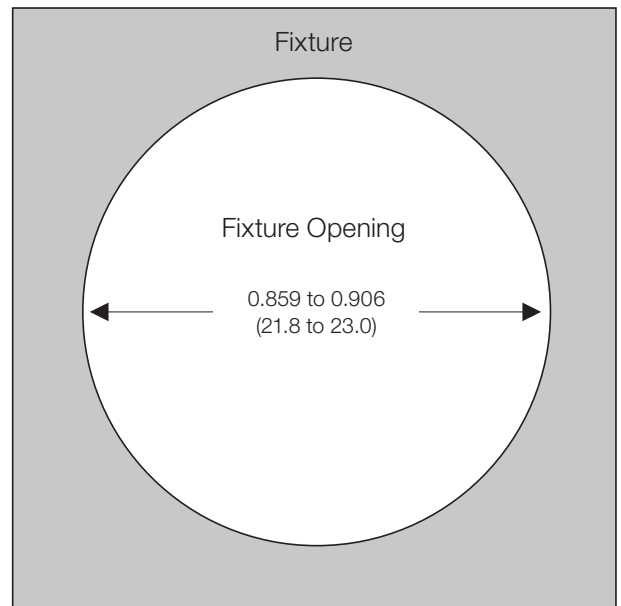
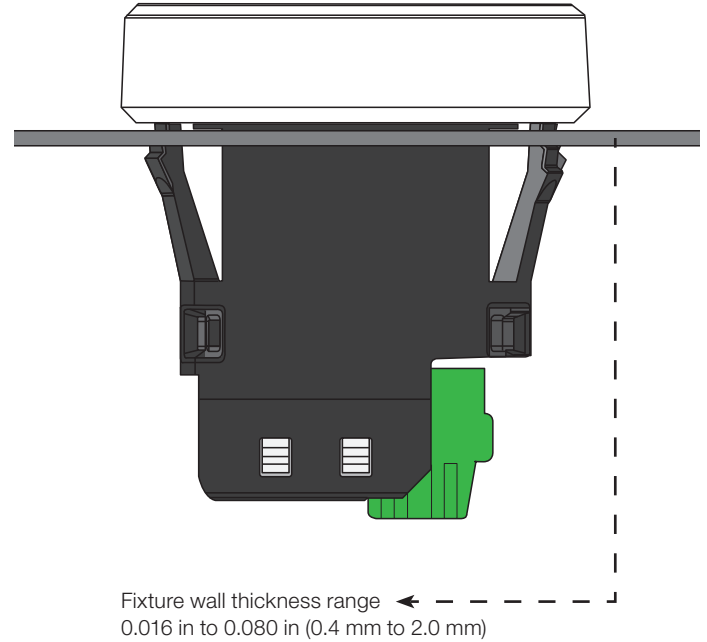
Dimensions

Shown as: in (mm)

Athena Wireless Node (RF only)



Fixture Mounting Considerations



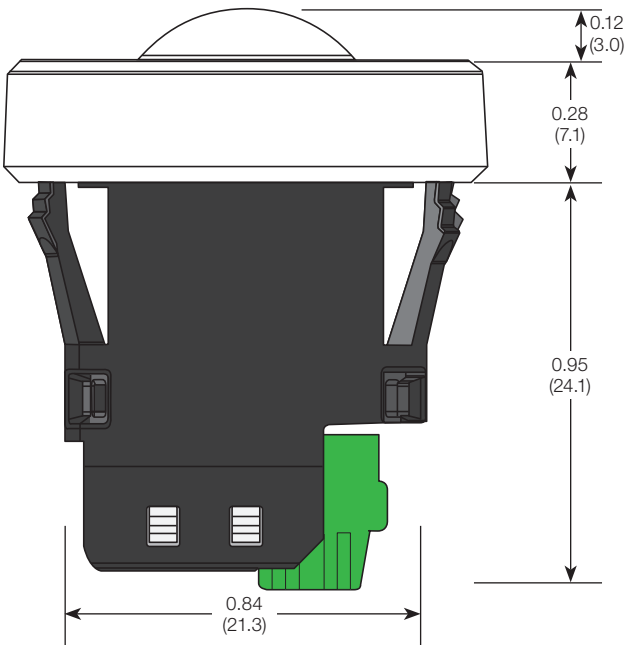
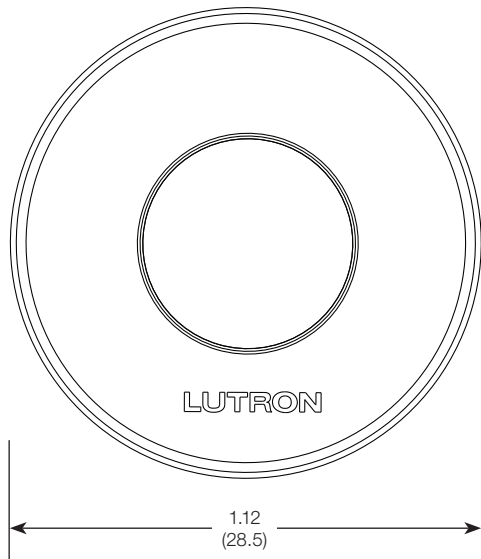
Compatible with fixture openings meeting Zhaga Book 20 or standard 1/2 in trade size knockout (0.875 in [22.5 mm] diameter knockout nominal)

Job Name:	Model Numbers:
Job Number:	

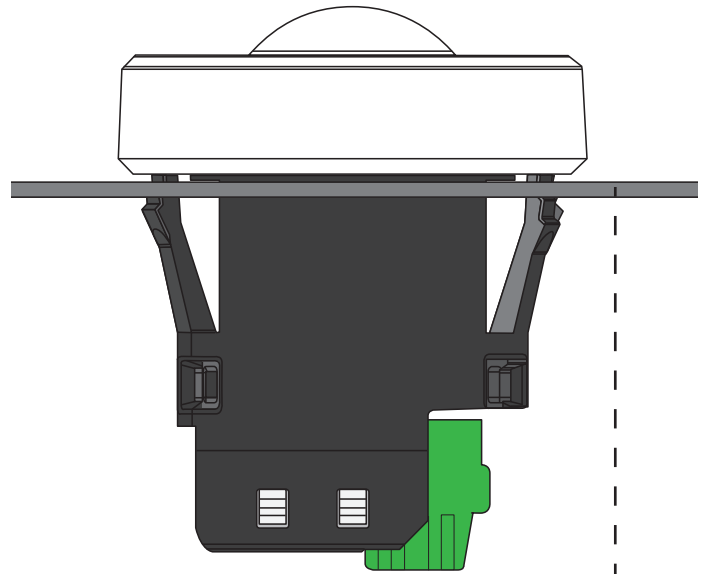
Dimensions (continued)

Shown as: in (mm)

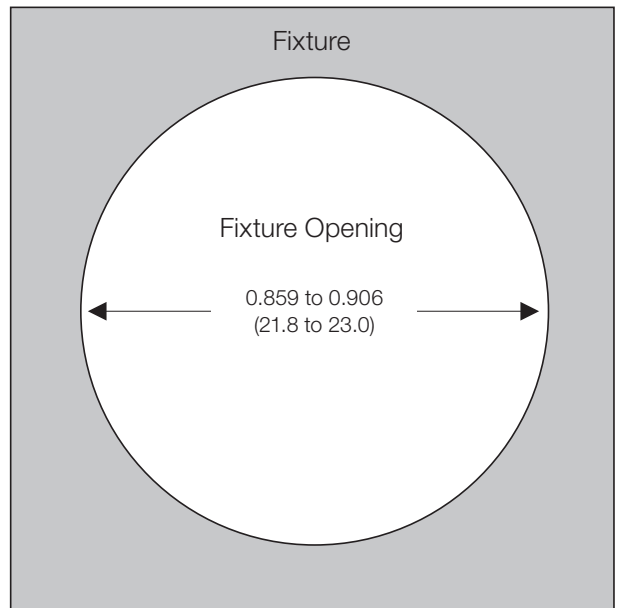
Athena Wireless Node with Sensor



Fixture Mounting Considerations



Fixture wall thickness range ← - - - - -
 0.016 in to 0.080 in (0.4 mm to 2.0 mm)



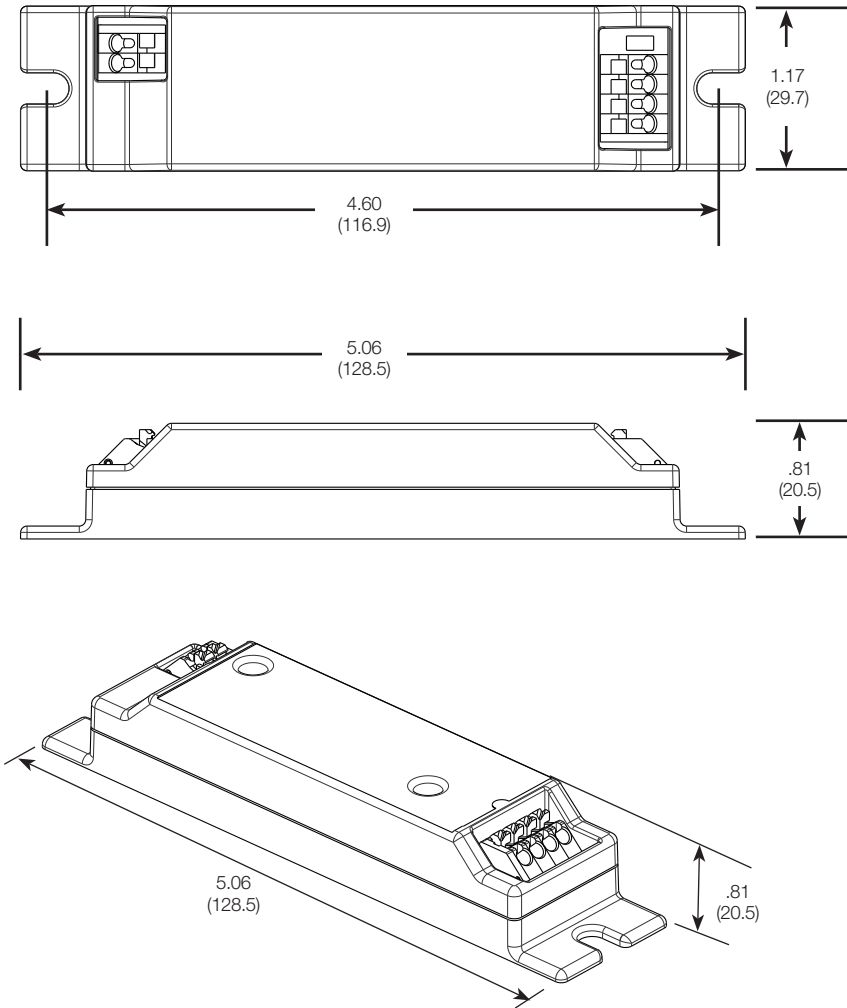
Compatible with fixture openings meeting Zhaga Book 20 or standard 1/2 in trade size knockout (0.875 in [22.5 mm] diameter knockout nominal)

Job Name:	Model Numbers:
Job Number:	

Dimensions (continued)

Shown as: in (mm)

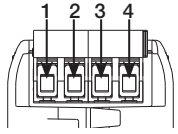
DFC-OEM-DBI



Job Name:	Model Numbers:
Job Number:	

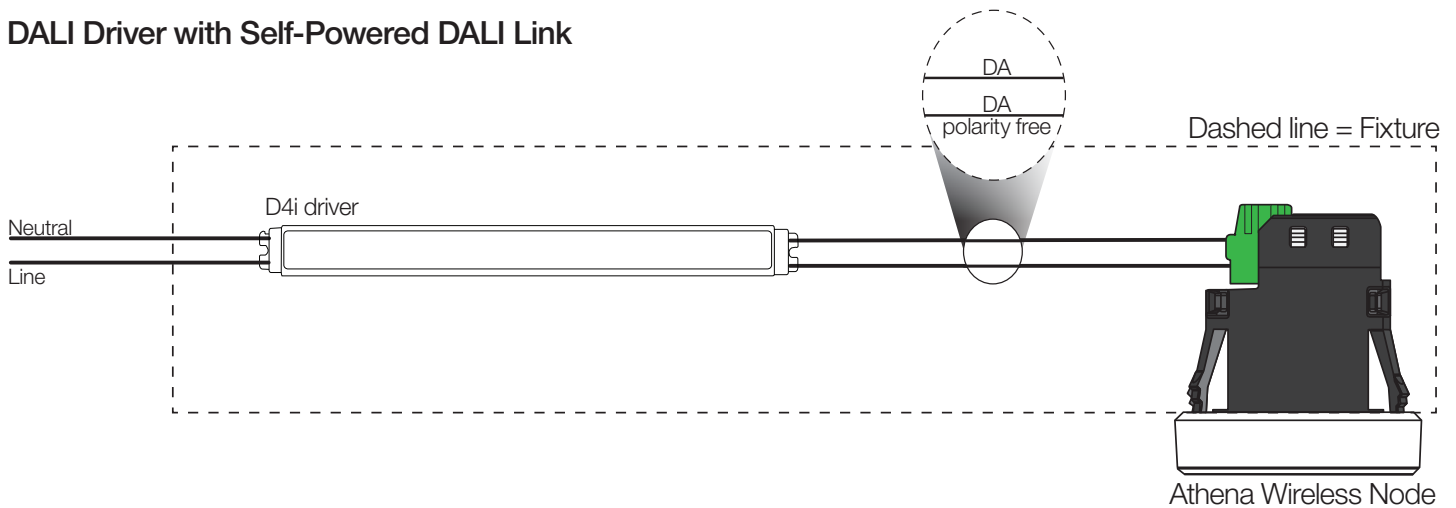
Wiring/System Diagram

Wiring Guide

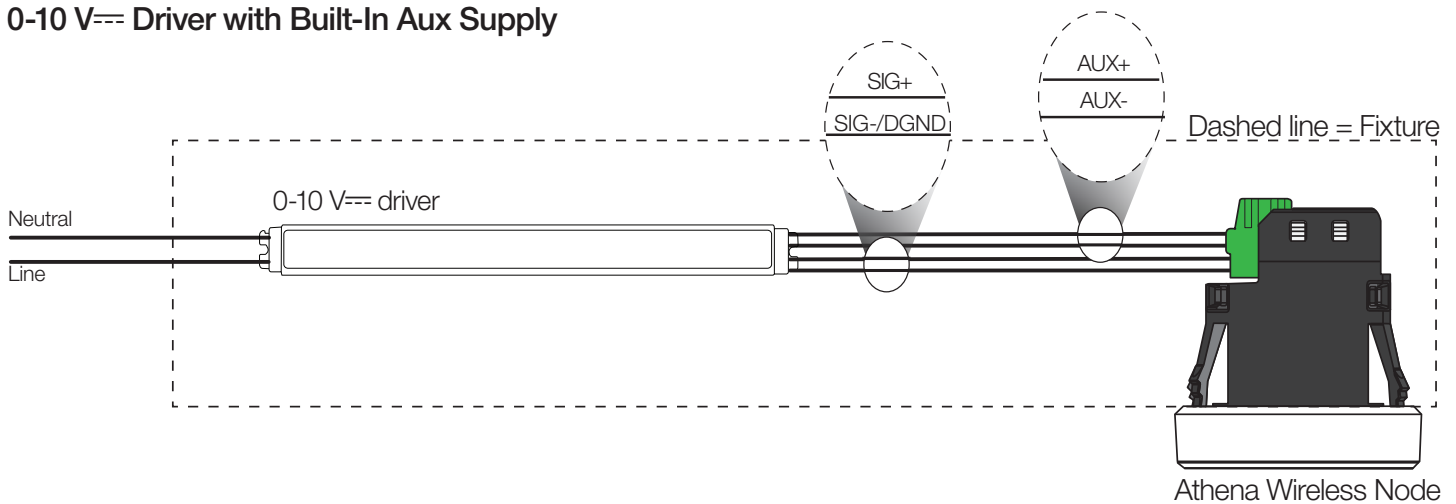


Connector Position	DALI Function	0-10 V Function
1	DA	AUX+
2	DA	AUX-
3	N/C	SIG+
4	N/C	SIG-/DGND

DALI Driver with Self-Powered DALI Link



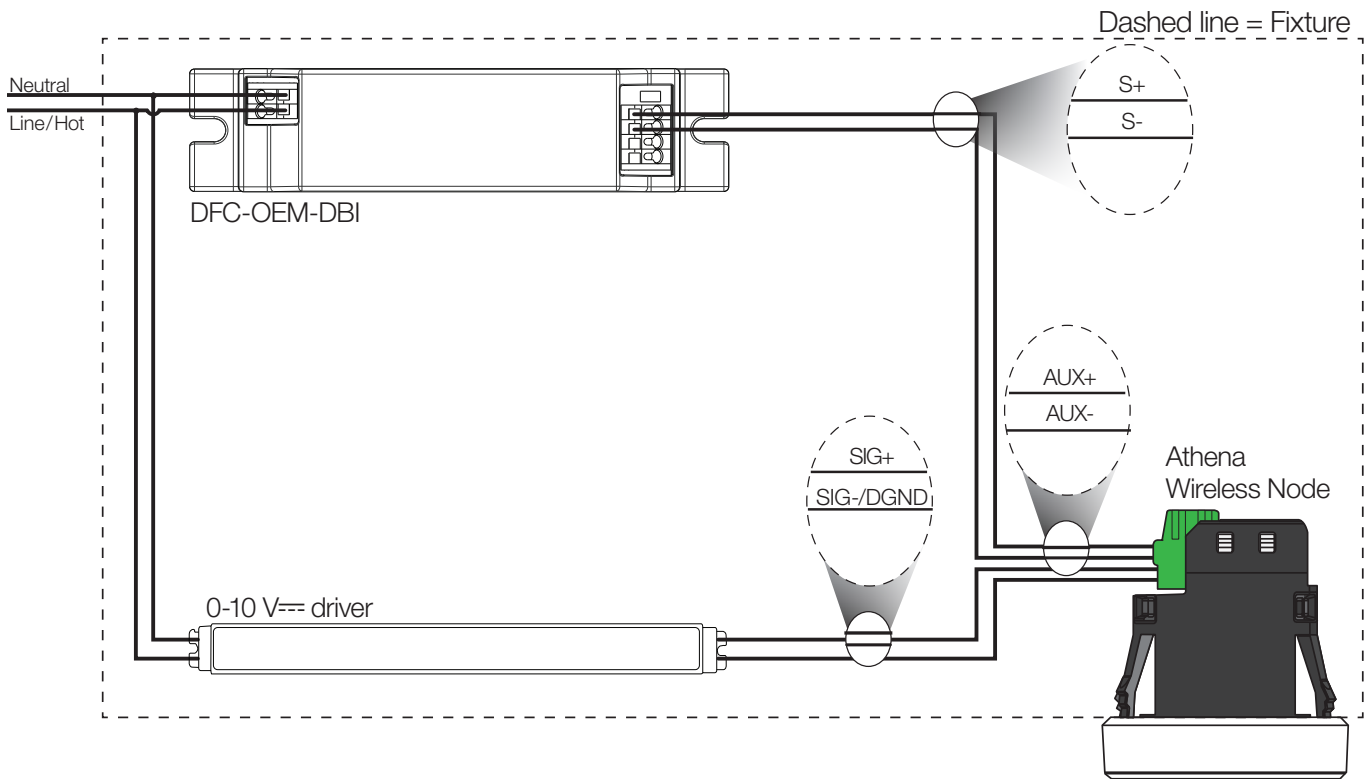
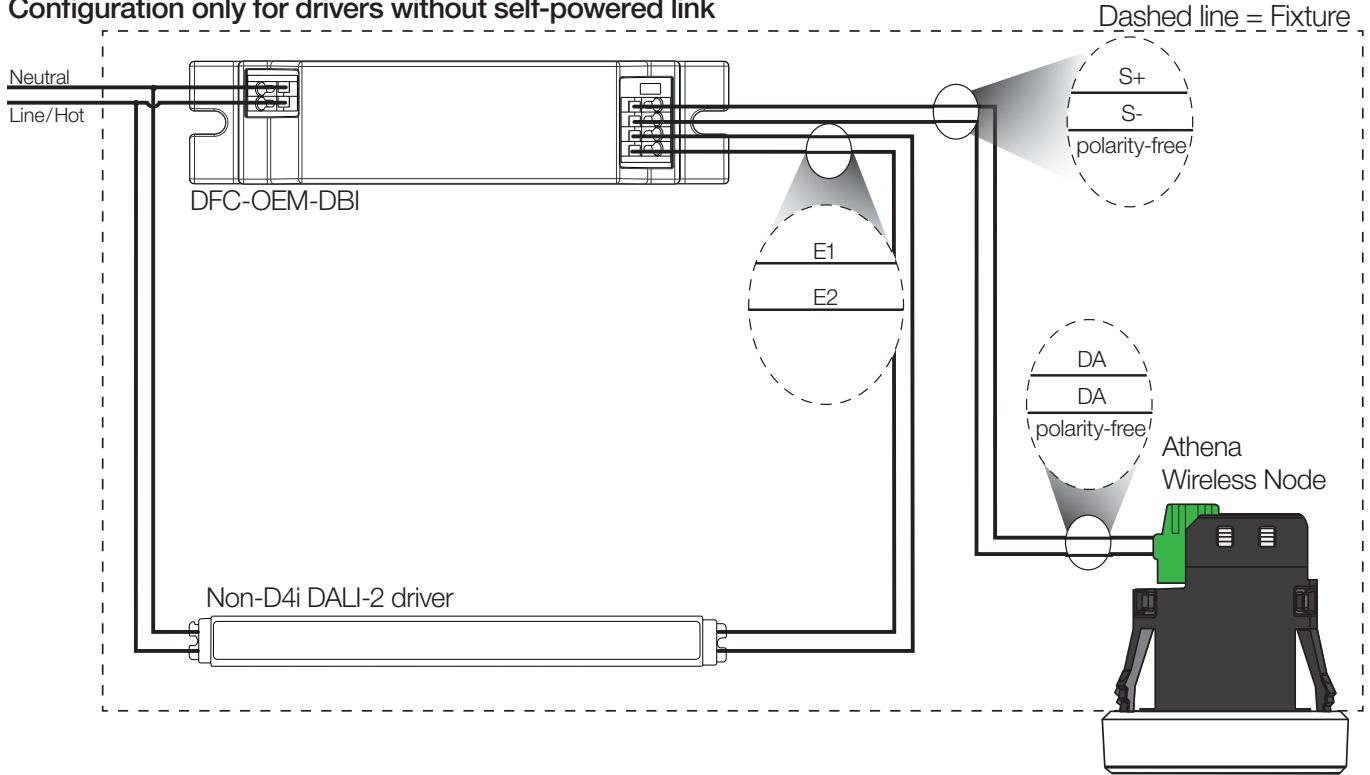
0-10 V Driver with Built-In Aux Supply



Job Name:	Model Numbers:
Job Number:	

Wiring/System Diagram (continued)

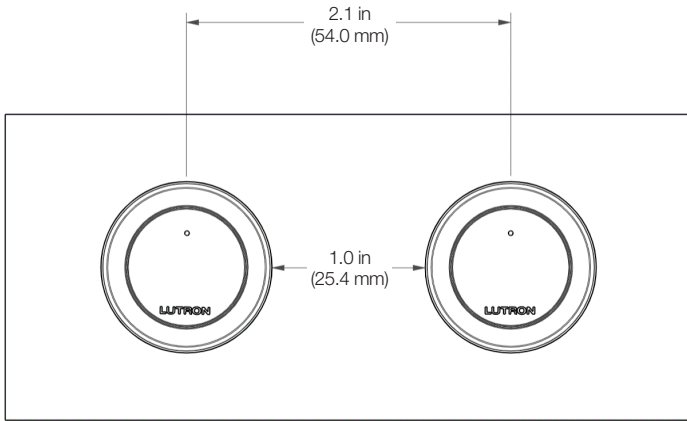
Configuration only for drivers without self-powered link



Job Name:	Model Numbers:
Job Number:	

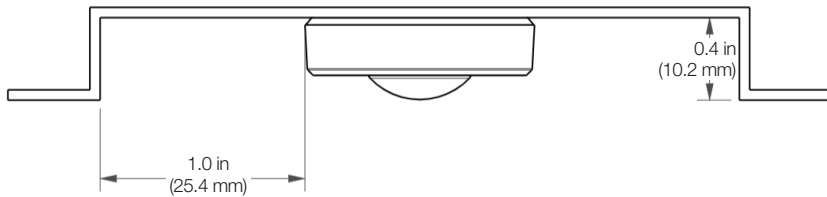
Node-to-Node Spacing

- 2.1 in (54.0 mm) center-to-center spacing for knockout.
- 1.0 in (25.4 mm) spacing for edge-to-edge of nodes.



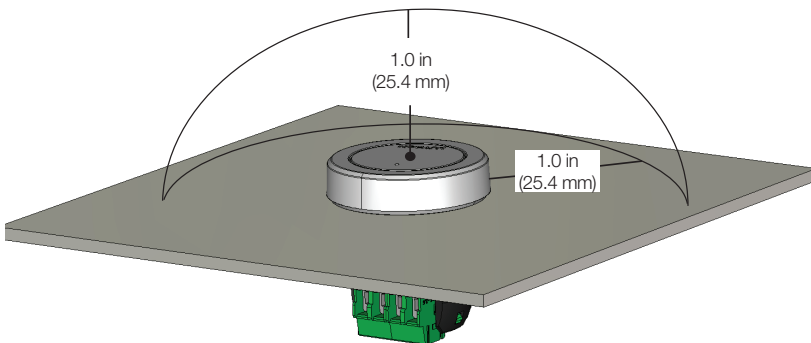
Metal Clearance

- The node must be installed external to metal enclosures.
- 1.0 in (25.4 mm) spacing from metal features.
- Maximum recess of 0.4 in (10.2 mm).



Exclusion Zone

- No metal should be placed in the front of the node.
- Ensure that all wiring and other obstructions are at least 1.0 in (25.4 mm) away.



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