# Athena Wireless Node Frequently Asked Questions

Q1: Does orientation affect the RF performance of the Athena wireless node? More specifically, can the node be installed horizontally (e.g., at the end of a linear fixture) without concern for RF problems?

A1: Orientation does not affect RF performance of the Athena wireless node, but the sensor version must point down into the space, for occupancy/vacancy and daylighting.

Sensor Version

0.4 in
(10.2 mm)

1.0 in
(25.4 mm)

Sensor must be perpendicular to the floor
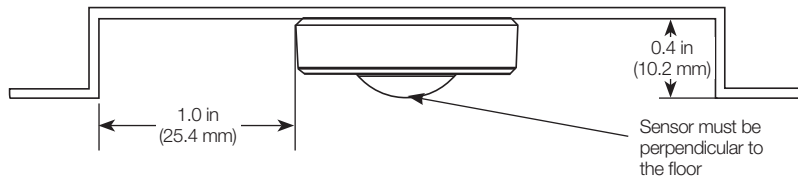
**Q2:** Can the node be installed into a Chicago plenum space?

A2a: For Chicago plenum installations, the Athena wireless node may not be installed in the plenum space. It must be installed in the occupied space.

A2b: For installations outside of the Chicago area, the Athena wireless node may be installed in the plenum per details on the specification sheet.

Q3: Can the Athena wireless node (RF-Only) be installed behind a fixture lens, such as wet location?

A3: Yes, in certain applications. Each application requires review. Please contact Lutron Sales to evaluate with the System Sales Engineering Team. The following information will be needed to start the evaluation:

1. Application in which the fixture is installed.

2. Fixture geometry (mechanical drawing).

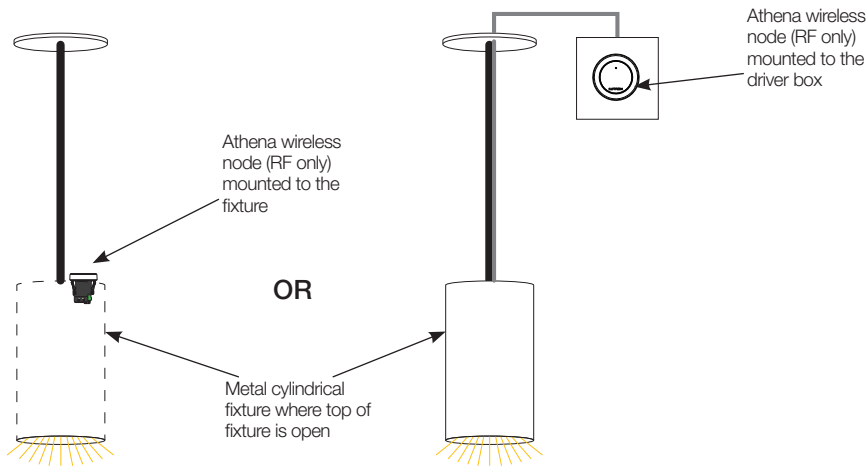3. Materials for each of the surfaces including the fixture lens.

Fixture

Ceiling

Athena Wireless
Node (RF only)

Lens (non-metallic)
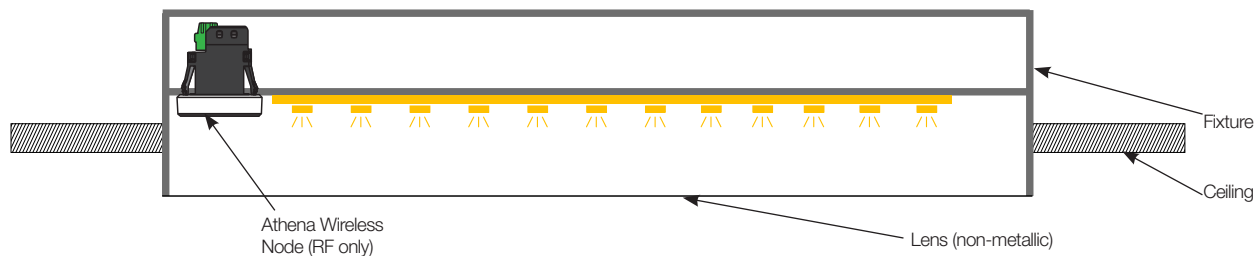
Q4: Can the Athena wireless node be installed inside the cylindrical fixture where the top of the fixture is open to above but the sides are metal?

A4a: This is an approved application if it complies with all exclusion zone requirements around the Athena wireless node.

A4b: Yes, in certain applications. Each application requires review. Please contact Lutron Sales to evaluate with the System Sales Engineering Team. The following information will be needed to start the evaluation:

1. Application in which the fixture is installed.

2. Fixture geometry (mechanical drawing).

3. Materials for each of the surfaces including the fixture lens.

Athena wireless node (RF only) mounted to the driver box

Athena wireless node (RF only) mounted to the fixture

OR

Metal cylindrical fixture where top of fixture is open

Q5: Can you do emergency and non-emergency powered drivers on the same node with the LUT-SHUNT-FM?

A5: No, a single emergency powered driver should be used with an Athena wireless node. Please refer to Application Note #106 (Lutron P/N 048106) Emergency Lighting Systems App at www.lutron.com for detailed diagrams covering both DALI and 0–10 V=== emergency applications.

Q6: Can the Athena wireless node respond to a Fire Alarm Control Panel signal?

A6: Yes. Add a QSE-IO to every system and setup a meeting with the MEP and the local System Sales Engineer.

Q7: What are some best practices for installing the Athena wireless node in a hard ceiling on a downlight or linear recessed fixture?

A7a: Install in accordance with all applicable electrical codes. Athena wireless node must be accessible for service.

A7b: If possible, have a way to service the Athena wireless node through the aperture, i.e., mount Athena wireless node on a removable plate that can be unscrewed and removed through the aperture.

A7c: The front of the Athena wireless node should always extend outside of the fixture or enclosure following all "exclusion zone" requirements on the Athena wireless node specification sheet.

Q8: What are some other mechanical best practices when using the Athena wireless node?

A8a: Hole diameters and panel thicknesses defined in the specification sheet are hard limits, beyond which there is no guarantee of mounting robustness.

A8b: Excessive paint on the fixture may make the panel too thick, or the hole too small.

A8c: Burrs on the edge of the hole may interfere with the mounting snaps.

A8d: Burrs inside the hole from pop-out discs may cause the inner diameter to be effectively too small.

A8e: Non-round holes may reduce mounting performance.

A8f: Non-flat panels may reduce mounting performance.

A8g: Push the units all the way into their holes during installation.

A8h: Do not hit units from the back to remove them. Depress the snaps and then gently wiggle the units out of their holes.

Q9: Can the Athena wireless node be installed in the driver compartment of a downlight fixture? What are the requirements to do this correctly and what codes/standards are referenced? Does it need to be Class 1 rated to be in the driver compartment?

A9: **For installation at the OEM:** Requires approval based on the end product standard to which the luminaire is evaluated. UL1598 6.18.1.1 states "6.18.1.1 Factory-installed power limited wiring and branch circuit wiring that come in random contact within the luminaire shall have insulation rated for the maximum voltage that exists in any of the circuits." This is an item the OEM should confirm with the certifying agency specific to their device.

Q10: Is there a list of compatible drivers?

A10a: No. The driver must be either: DALI-2 certified (for static white) or DALI-2 Device Type 8 certified (for tunable white applications) or ANSI C137.1 for 0–10 V⎓ drivers.

A10b: Separately, ensure the power requirements of the Athena wireless node are met by either: 1) the D4i or on-board auxiliary power supply or by 2) a secondary supply such as the Lutron DFC-OEM-DBI (used for both DALI-2 and ANSI C137.1 0–10 V⎓ drivers).

Q11: Am I able to use the LED engine output of the driver to power the Athena wireless node?

A11: No.

Q12: Am I able to use the LED engine output of the driver to power the Athena wireless node or use a 2-channel driver and program one of the outputs to CV to power the Athena wireless node?

A12: No.

Q13: Can an Athena wireless node be installed in a ceiling tile outside of a fixture or in a junction box?

A13: This is not a supported use case at this time.

Q14: Is there a suggestion for handling continuous runs of linear fixtures?

A14a: One Athena wireless node per zone of control per fixture section with consideration of energy codes, requirements such as daylighting zone and occupancy sensor coverage areas, as well as node-to-node RF range.

A14b: Please reference the specification sheet for information on the minimum spacing between Athena wireless nodes.

Q15: With 0–10 V‒‒ drivers, what is the control voltage for low-end light level and what voltage is turn-on vs turn-off? Are these configurable in the Athena wireless node through the Lutron Designer software for Athena or do they need to be set in the driver?

A15: Per ANSI C137.1:

i) Turn-on voltage is set by the driver manufacturer.

ii) Any voltage below 0.8 V will be off (standby mode), the driver must have "dim-to-off" voltage at or above 0.8 V.

iii) The driver defines what the turn-off voltage will be. The Athena system is capable of trimming the low-end of the dimming output to eliminate "dead travel" inside the Lutron Designer software for Athena at system startup.

Q16: Can I power more than one Athena wireless node with the DFC-OEM-DBI?

A16: No. There can be only a single Athena wireless node connected to each DFC-OEM-DBI.

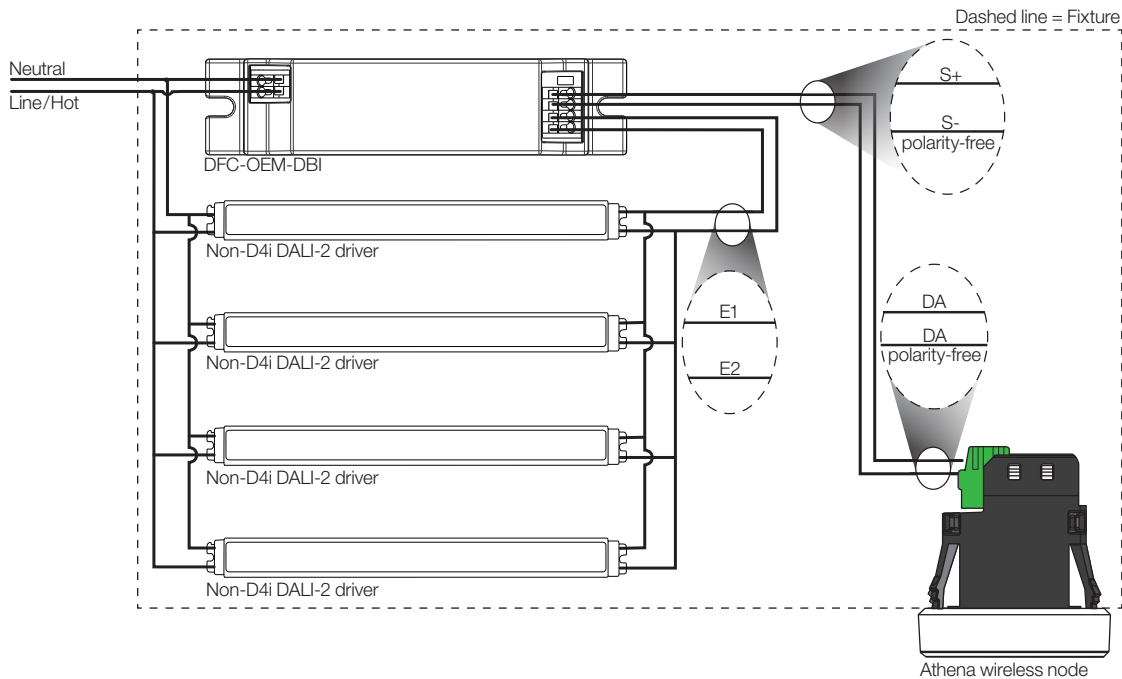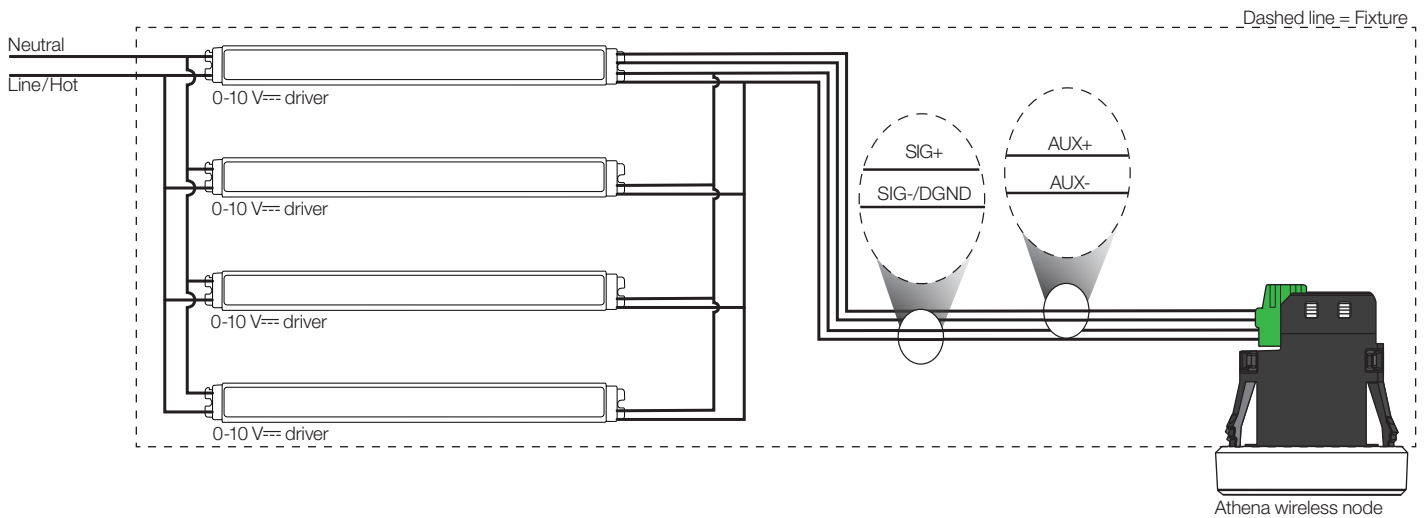**Q17:** How do multiple LED drivers wire to a single Athena wireless node?

A17: Please see the Athena wireless node specification sheet for details concerning how many drivers can be connected to a Athena wireless node.

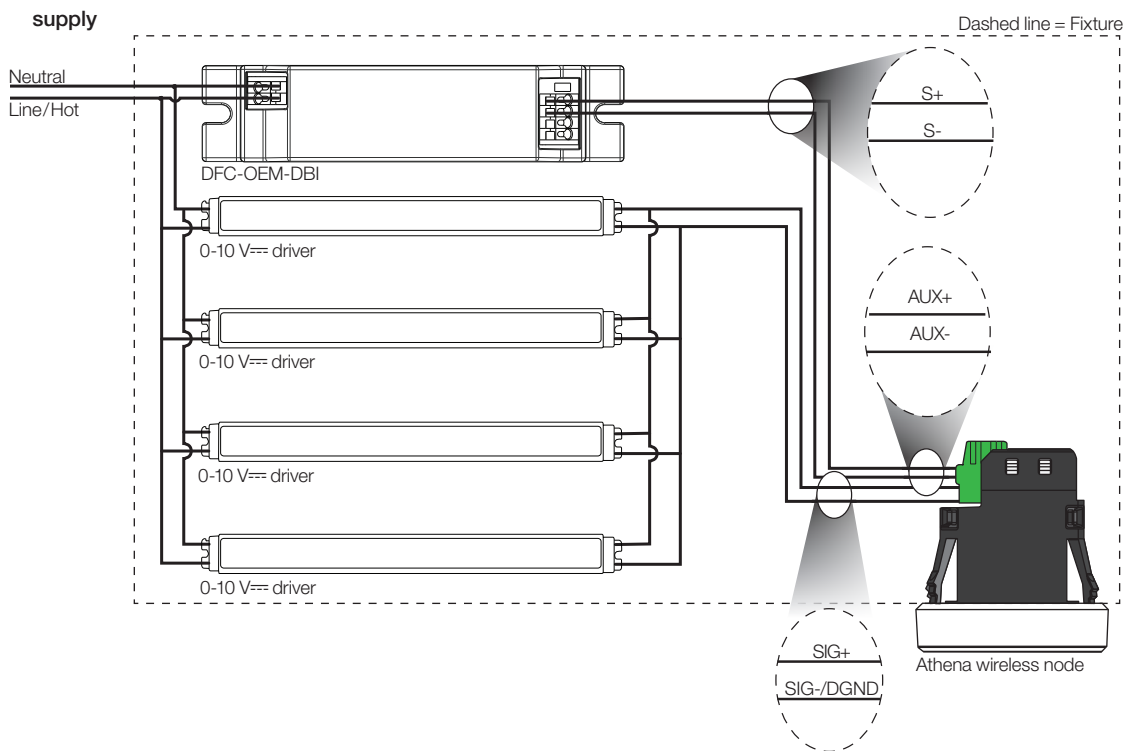**a. DALI driver with D4i-compliant self-powered link power supply**
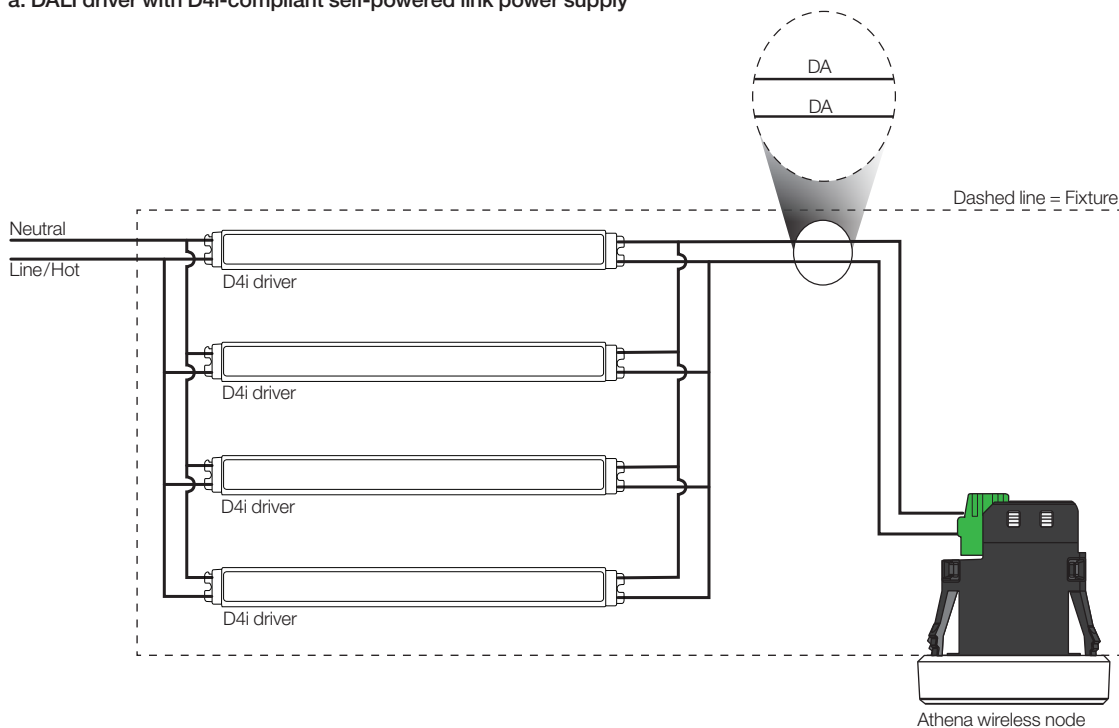
Q17: How do multiple LED drivers wire to a single Athena wireless node? *(continued)*

A17: *(continued)*

b. DALI driver without self-powered link power supply

Dashed line = Fixture

Neutral
Line/Hot

DFC-OEM-DBI

Non-D4i DALI-2 driver
Non-D4i DALI-2 driver
Non-D4i DALI-2 driver
Non-D4i DALI-2 driver

S+
S-
polarity-free

E1
E2

DA
DA
polarity-free

Athena wireless node

c. ANSI C137.1 0–10 V⎓ driver with compliant built-in auxiliary power supply

Dashed line = Fixture

Neutral
Line/Hot

0-10 V⎓ driver
0-10 V⎓ driver
0-10 V⎓ driver
0-10 V⎓ driver

SIG+
SIG-/DGND

AUX+
AUX-

Athena wireless node

Q17: How do multiple LED drivers wire to a single Athena wireless node? *(continued)*

A17: *(continued)*

d. ANSI C137.1 0–10 V=== driver without built-in auxiliary power supply

Dashed line = Fixture

Neutral
Line/Hot

DFC-OEM-DBI

0-10 V=== driver

0-10 V=== driver

0-10 V=== driver

0-10 V=== driver

S+
S-

AUX+
AUX-

SIG+
SIG-/DGND

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Lutron Contact Numbers

WORLD HEADQUARTERS:
USA
Lutron Electronics Co., Inc.
7200 Suter Road
Coopersburg, PA 18036-1299
TEL: +1.610.282.3800
FAX: +1.610.282.1243

support@lutron.com

www.lutron.com/support

North & South America
Customer Assistance
USA, Canada, Caribbean:
1.844.LUTRON1 (1.844.588.7661)
Mexico:
+1.888.235.2910
Central/South America:
+1.610.282.6701

UK AND EUROPE:
Lutron EA Limited
125 Finsbury Pavement
4th floor, London EC2A 1NQ
United Kingdom
TEL: +44.(0)20.7702.0657
FAX: +44.(0)20.7480.6899
FREEPHONE (UK): 0800.282.107
Technical Support: +44.(0)20.7680.4481

lutronlondon@lutron.com

ASIA:
Lutron GL Ltd.
390 Havelock Road
#07-04 King's Centre
Singapore 169662
TEL: +65.6220.4666
FAX: +65.6220.4333
Technical Support: 800.120.4491

lutronsea@lutron.com

Asia Technical Hotlines
Northern China: 10.800.712.1536
Southern China: 10.800.120.1536
Hong Kong: 800.901.849
Indonesia: 001.803.011.3994
Japan: +81.3.5575.8411
Macau: 0800.401
Taiwan: 00.801.137.737
Thailand: 001.800.120.665853
Other Countries: +65.6220.4666

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