

Outdoor Lighting

from Georgia Power





Is the Connected Lighting Market Ready to Converge on Common Intra-luminaire Communication Protocols?



Is the Connected Lighting Market Ready to
Converge on Common Intra-luminaire
Communication Protocols?

Yes
and
we need them now!



What is needed to make Common Intra-luminaire Communication Protocols happen?

- 1. Select a digital addressable protocol**



Select a Digital Addressable Protocol

- Let go of 0-10V—it is a “one trick pony.”
- Select a two-way digital addressable lighting protocol such as DALI.
- DALI will allow us to dim and do so much more (e.g. two-way communication).
- DALI is standardized, proven, bi-directional and available today.
- This is why we (Georgia Power) selected DALI.



What is needed to make Common Intra-luminaire Communication Protocols happen?

1. Select a digital addressable protocol
- 2. Digital addressable drivers**



Digital Addressable Drivers

- DALI drivers are available.
- DALI drivers have a proven track record in Europe.
- DALI drivers are available in common preset and programmable drive currents.
- DALI drivers physically match the footprint of their 0-10V counterpart in most cases.
- DALI drivers are available with auxiliary DC power supplies for powering sensors and NLCs.



What is needed to make Common Intra-luminaire Communication Protocols happen?

1. Select a digital addressable protocol
2. Digital addressable drivers
3. **Digital addressable sensors**



Digital Addressable Sensors

- We are not aware of any DALI enabled sensors available today for outdoor lighting
- We need them now!
- Sensors need to operate on various ranges of AC or DC voltages.
- They can be powered from the AC feeding the luminaire or from DC provided by the NLC or the driver(s).



What is needed to make Common Intra-luminaire Communication Protocols happen?

1. Select a digital addressable protocol
2. Digital addressable drivers
3. Digital addressable sensors
4. **Standardize AC and DC operating voltage ranges**



Standardize AC and DC Operating Voltages

Fixtures and components such as drivers and sensors in North America must operate on either:

- 120-277 V AC (drivers and sensors)
- 347/480 V AC (drivers and sensors)
- 12-24 V DC (sensors)



What is needed to make Common Intra-luminaire Communication Protocols happen?

1. Select a digital addressable protocol
2. Digital addressable drivers
3. Digital addressable sensors
4. Standardize AC and DC operating voltage ranges
- 5. Standardize interfaces and connectors**



Standardized Interfaces and Connectors

- ANSI C136.41 7-pin receptacle for PCs and NLCs
- Zhaga Book 18 interface for sensors and NLCs
- SMA connectors for RF
 - External NLC antennas are needed for luminaires with locking type PC/NLC receptacles inside of a metal housing.
 - SMA connectors work well. Let's standardize on SMA.



What is needed to make Common Intra-luminaire Communication Protocols happen?

1. Select a digital addressable protocol
2. Digital addressable drivers
3. Digital addressable sensors
4. Standardize AC and DC operating voltage ranges
5. Standardize interfaces and connectors
6. **Create and publish related standards**



Create, Publish and Revise Related Standards

- IEC 62386 for DALI and DALI 2.0
- ANSI C136.41 for PC/NLC receptacle
- ANSI C136.48 for external NLC
- ANSI C136.50 for energy measurement
- ANSI C136.52 for internal NLC
- ANSI C136.54 for outdoor motion sensors

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In Conclusion...



Is the Connected Lighting Market Ready to Converge on Common Intra-luminaire Communication Protocols?

Yes!

It is time to select and standardize protocols and interfaces so manufacturers can build products to meet our needs.