

Wireless Connected Lighting

DESIGN GUIDE

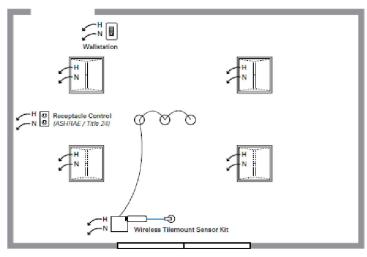
NON-INTEGRATED CONFERENCE CLASSROOM_1

WaveLinx Connected Lighting

Conference Room

example 1

	Manually Switched ON / OFF	Manual Dimmer	Manual ON / Auto OFF	Occupancy Sensor	Daylighting Control	Lumen Maintenance Control	Tuning Control	Receptacle Control	Demand Response	
IECC 2018	•	•	•	•	•	•	•			_
ASHRAE 90.1 - 2019	•	•	•	•	•	•	•	•	•	
T24 2019	•	•	•	•	•	•	•	•	•	
NECB 2017		•	•	•	•	•				





Bill of Material

uantity	Catalog #	Description
1	WAC-POE	Wireless Area Controller
1	W4S-RL-W	WaveLinx Wallstation
1	WR-20	WaveLinx Receptacle (ASHRAE / Title 24)
1	WTA	WaveLinx Tilemount Sensor Kit
3	LD4 or LD6	Portfolio Commercial Recessed LED
4	22EN-LD2-34-UNV- L835-CD1-WAA-U	Encounter 2x2 with WaveLinx Sensor

Design Consideration	Best Practice	Maximum		
Gateway / Wireless Area Controller range	150 ft LOS	300 ft LOS		
Number of interior walls	2 walls	3 walls		
Distance from Wireless Area Controller to 1st WaveLinx device	150 ft	200 ft		
Distance between WaveLinx devices	75 ft	150 ft		
Number of hops from Wireless Area Controller	4 hops	5 hops		
Number of areas per Wireless Area Controller	15 + 1 construction area			
Number of zones per area	3	16		
Number of scenes per area	16	16		

Sequence of Operations

Lighting

- · 0-10V lighting loads
- · Up to 3 dimmable zones
- Out of the box 75% high end trim

Daylighting

- · Continuous dimming to off
- Individual luminaire daylight dimming to approximately 500 lux
- Daylighting not required for indoor spaces without windows
- Not required in spaces without windows or that are less than 150W (120W for ASHRAE / Title 24)

Occupance

- · Automatic auto on to 50%
- · Optional vacancy mode
- · Optional auto on to scene
- Plug load turns on with occupancy
- Automatic off of lighting and plug load on vacancy

Manual Controls

- Top or dominant button half lights (sets lights to 50% or less)
- Remaining buttons trigger scenes
- Scene raise / Scene lower
- · All off

Additional Features

- · Energy calculations (available through Trellix)
- Automatic demand response through wireless area controller
- Scheduling of partial off light levels from wireless area controller
- UL924 emergency control capabilities via luminaire battery backup or fixture integrated transfer device (consult fixture spec sheet)
- Complies with Enhanced Digital Lighting Control section C406 (IECC)

Typical Wiring Detail











Receptacle



22EN-LD2-34-UNV-L835-CD1-WAA-U Encounter 2x2 with WaveLinx Sensor







WTA Wireless Tilemount Sensor Kit occupancy / daylighting 3A Relay with 0-10V



LD4/LD6 Portfolio Commercial Recessed LED

	Local Control	Manual ON	Partial ON	Bilevel Lighting	Daylight Side	Daylight Top	Partial OFF	Automatic OFF	Scheduled OFF	Receptacle Control	Energy Monitoring	Parking Garage	Functional Testing	Demand Response	Enhanced Digital
IECC 2018	C405.2.5	C405.2.5	C405.2.2.1.2		C405.2.3.2	C405.2.3.3	C405.2.1.3	C405.2.1.1.1	C405.2.2	C405.2.4		C405.2.6	C408.3		C406. 4
ASHRAE 90.1-2019	9.4.1 (a)	9.4.1.1 (b)	9.4.1.1 (c)	9.4.1.1 (d)	9.4.1.1 (e)	9. 4 .1.1 (f)	9.4.1.1 (g)	9.4.1.1 (h)	9.4.1.1 (i)	8.4.2	8.4.3.2	9.4.1.2	9.4.3		C406. 4
T24 2019	130.1 (a)(b)	130.1 (a)(b)	130.1 (b)		130.1 (d)	130.1 (d)	130.1 (c).6	130.1 (c).5	130.1 (c)	130.5 (d)	130.5 (b)	130.1 (d)	130.4	130.1 (e) 130.1 (e)	
NECB 2017	4.2.2.1.(3)	4.2.2.1.(3), 4.2.2.1.(6)	4.2.2.1 (8)	4.2.2.1.(9)	4.2.2.1.(10)	4.2.2.1.(13)	4.2.4.1. (16-17)	4.2.2.1. (18-19)	4.2.2.1. (20-23)			4.2.2.2 4.2.2.4			