

**PHILIPS**

# Philips MasterConnect System

Signify LED Electronics

November 2024

innovation ✨ you



# Philips MasterConnect

A simple, cost-effective wireless lighting system enabling energy savings and comfort for all target spaces creating value for end users, OEMs and installers today and tomorrow!

# Key benefits



## Energy savings

- Energy savings as light adapts to actual usage of spaces
- Additional savings of up to 40% compared to standard LED lighting
- Short payback times thanks to lowered energy costs



## Easy luminaire integration

- Simple building blocks
- “Single Box” design - 2-wire LV connection between SR/D4i driver and EasySense sensor
- No extra components for control, cleaner assembly, less failure points, no ceiling clutter, etc.



## Intelligent and easy to use

- Out of the box occupancy and daylight harvesting
- Wireless group occupancy sharing and group control
- Easy configuration via the Philips MasterConnect app
- Tunable White control with FlexTune SR driver
- Point & select luminaires with standard flashlight
- Room level energy report



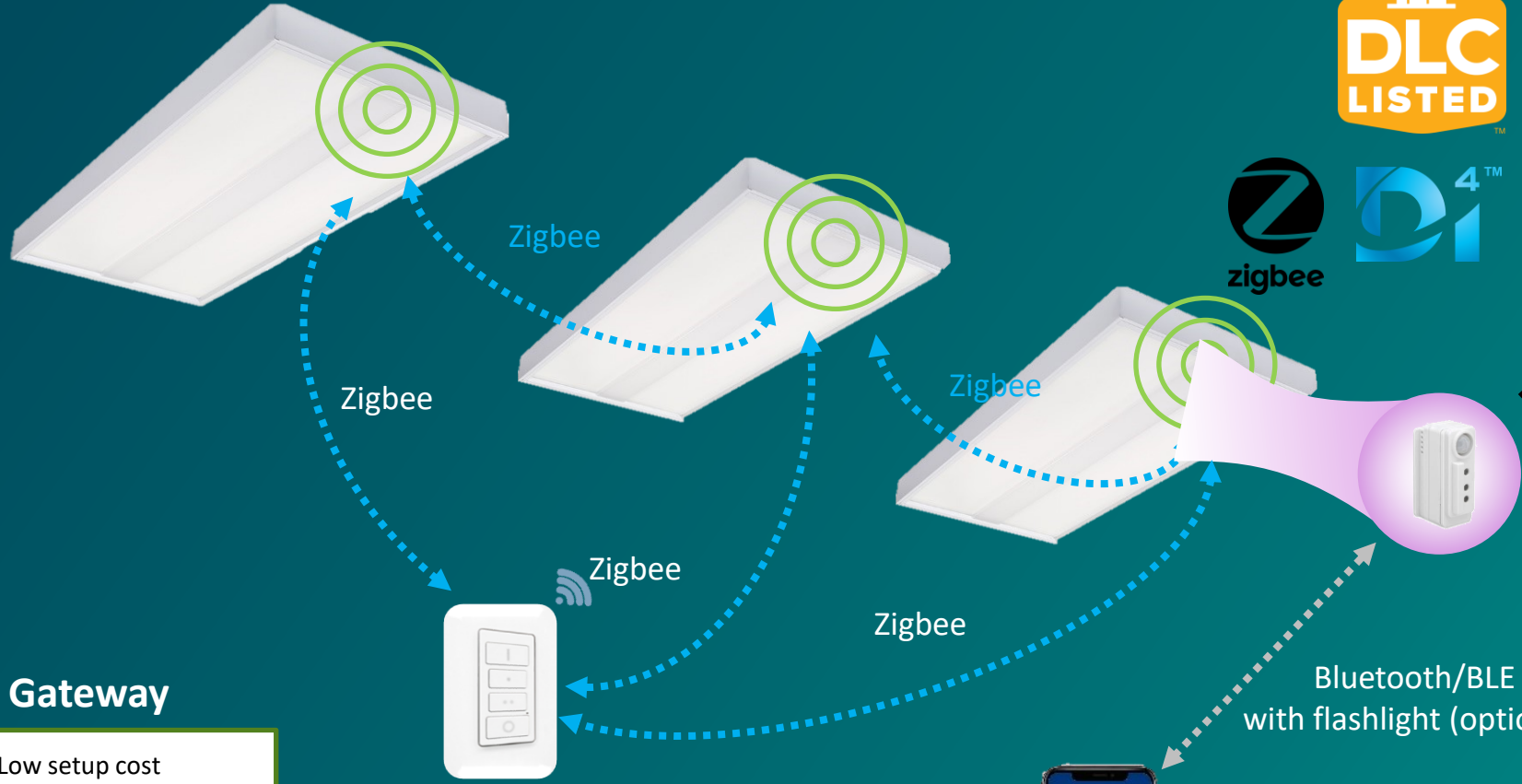
## Cost effective

- Wireless control
- Low system cost – only SR/D4i driver and EasySense sensor
- No DALI wiring or other control infrastructure required
- Less installation time, creating cost savings.

# MasterConnect System: Room based Lighting Control with LLLC



- Networking of Luminaires and Devices
- Occupancy Sensing
- Daylight Harvesting / Photocell Control
- High-End Trim
- Zoning
- Luminaire and Device Addressability
- Continuous Dimming

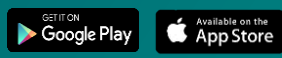


**EasySense SNS21x MC**  
(with Zigbee & Bluetooth)  
**Luminaire Level**  
**(Network) Lighting**  
**Control (LLC)**

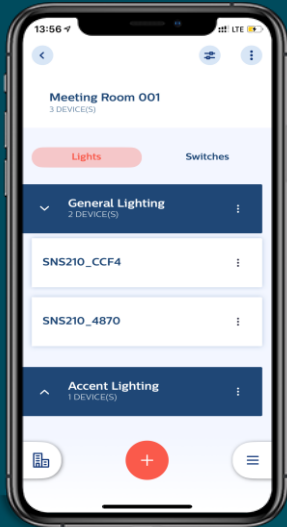
## No Gateway

- + Low setup cost
- + Easy to install/commission
- + Easy to maintain
- + Added value through advanced control

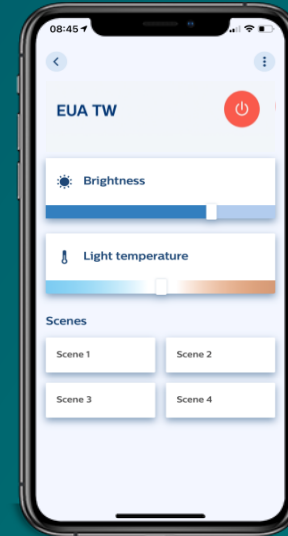
*Mobile Phone with Bluetooth APP for Project/System Set up and Energy Report generation.*



# MasterConnect Apps:



**Name:** Philips MasterConnect  
**Purpose:** Commissioning & configuration by installers



**Name:** Philips MC control app  
**Purpose:** Control by end-users  
*(using the phone to control lights, like with a switch)*

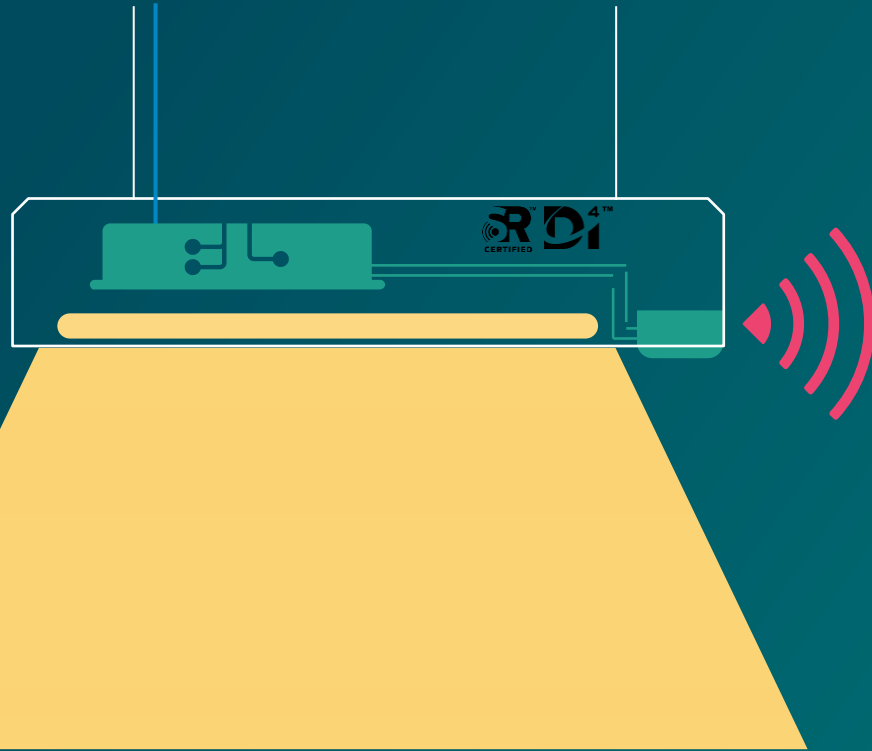
## Configurable parameters include

- Occupancy Based control:
  1. Auto-ON/Auto-OFF
  2. Manual ON/Auto-OFF
  3. Manual ON/OFF
- Daylight based control
- Group occupancy sharing and light behavior
- Light levels:
  - Field task level
  - Eco on level
  - Background light level
  - Scenes including CCT
- Timers: Hold Time, Prolong time, and grace fading.

## End User Control:

- Switch on/off
- Tuning light intensity and color temperature
- Recalling scenes

# Office Application Required Components



EasySense SNS212 MC



Xitanium SR or D4i driver

## Philips EasySense Sensor (LLLC)

- Occupancy and daylight harvesting in every luminaire
- Simple two-wire connection to Xitanium SR driver
- Tunable White control with FlexTune SR driver
- Wireless grouping of sensors and control
- Group control for up to 120 luminaires via Zigbee 3.0 mesh technology
- Flashlight point & select for easy commissioning
- Up to 3 meters mounting height



## Advance SR driver (or D4i certified Driver)

- Standardized open digital interface (D4i/SR)
- Low voltage power supply for sensors
- 4% accurate power metering (indoor drivers)
- Diagnostics



## Philips MasterConnect App

- Easy grouping, zoning and configuration via Bluetooth Low Energy via the Philips MasterConnect app
- Room level Energy report generation
- No special tooling or extensive training required
- Available for iOS and Android smartphones

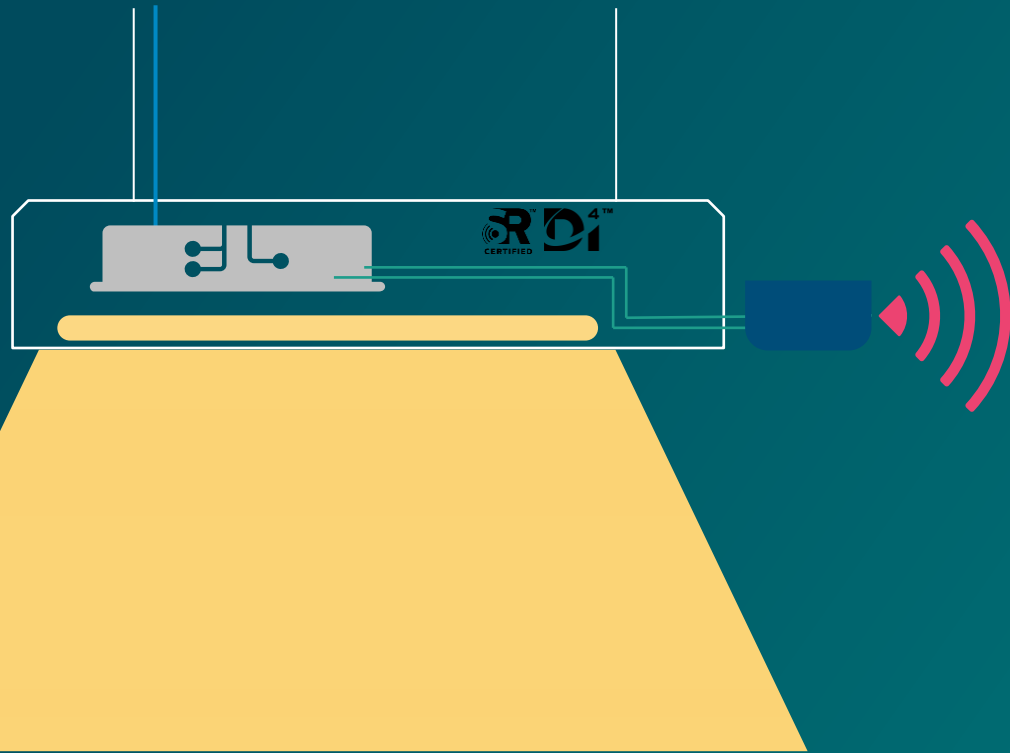


## Wireless switches

- Allow manual control of zone or groups of luminaires
- Supported switches include Philips SWS200, RunLessWire FOH and Illumra.



# High-Bay Application Required Components



## Philips EasySense Sensor (LLC)

- Occupancy and daylight harvesting in every luminaire
- Simple two-wire connection to Xitanium SR driver
- Tunable White control with FlexTune SR driver
- Wireless grouping of sensors and control
- Group control for up to 120 luminaires via Zigbee 3.0 mesh technology
- Flashlight point & select for easy commissioning
- 5m to 16m mounting height; IP65 rated



## Advance SR driver (or D4i certified Driver)

- Standardized open digital interface (D4i/SR)
- Low voltage power supply for sensors
- 4% accurate power metering (indoor drivers)
- Diagnostics



## Philips MasterConnect App

- Easy grouping, zoning and configuration via Bluetooth Low Energy via the Philips MasterConnect app
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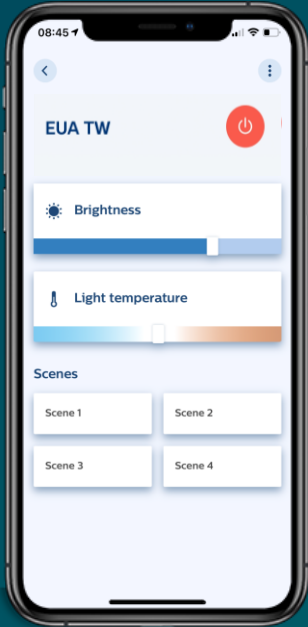
EasySense SNH212MC



Xitanium SR or D4i Driver

# Flexible manual control options

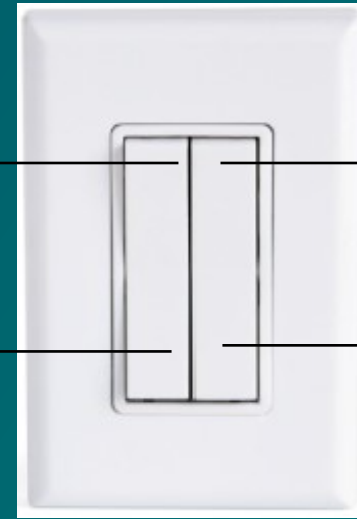
## Wireless Switches & MC Control App



Philips MC control app

Short: **ON**  
Long: **DIM UP**

Short: **OFF**  
Long: **DIM DOWN**



Short: **SCENE 1**  
Long: **CCT UP**

Short: **SCENE 2**  
Long: **CCT DOWN**

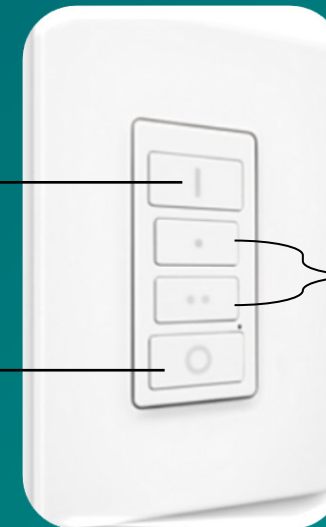
Illumra ZBT-S2AWH (Kintetic)

*Feature-positions may vary based on the switch model.*

- Using the MasterConnect App, light intensity level and CCT can be defined for ON, Scene 1 and Scene 2 buttons of the Wireless switches and MC Control App.

Short: **ON**  
Long: **DIM UP**








Short: **OFF**  
Long: **DIM DOWN**



Short: **Scene 1/2**  
Long: **CCT Up/Down**

Philips SWS200 (Battery )

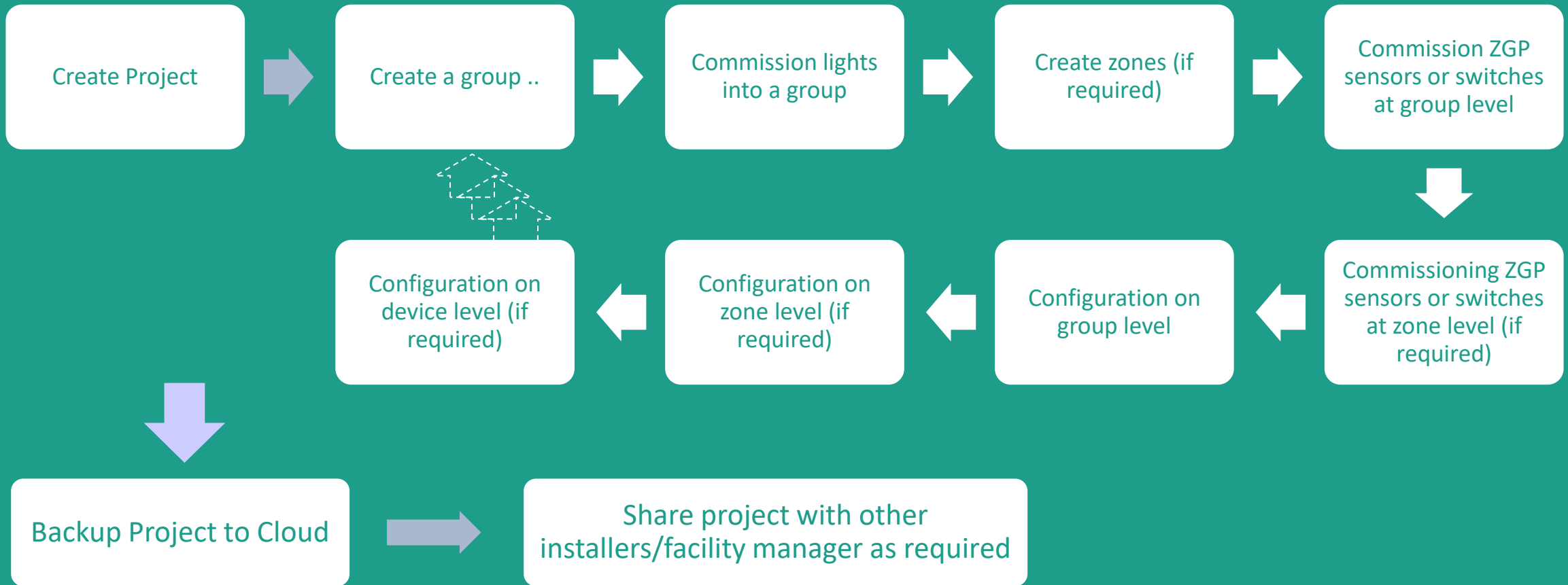
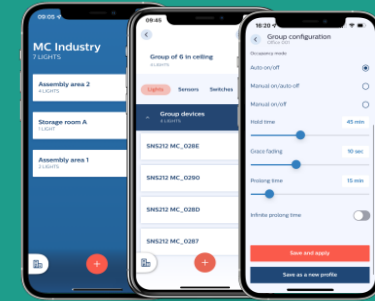


EasySense SNS/SNH 21x MC (Philips MasterConnect System for North America)					
Compatible Wireless Zigbee Green Power Switches					
Brand	Catalog #	Signify 12NC / Available via	Image	Energy Source	Notes
Illumra	<a href="#">ZBT-S1AWH</a>	(purchased via Illumra suppliers)		Kinetic.	Available in popular colors. 
Illumra	<a href="#">ZBT-S2AWH</a>	(purchased via Illumra suppliers)		Kinetic.	Available in popular colors. 
Philips	<a href="#">SWS200</a>	913701046713		Battery powered	Very easy to commission From SNS/SNH211 MC and higher models. (Not compatible with SNS210 MC).
RunLessWire	<a href="#">FOH-DSWH</a>	(via RunLessWire suppliers - including Amazon & DIY)		Kinetic.	Part of Hue family. Contains <i>both</i> single and dual rockers for local install.
Philips	<a href="#">UID8451/10</a>	913700364403		Kinetic.	Previous generation and not recommended. Needs some dis-assembly for commissioning.

# Commissioning & Configuration

## Recommended flow for installers

★★★★★  
**< 5 minutes for an average room**





### Sensors

For more flexibility, our latest firmware makes it possible to use Philips MasterConnect in larger group sizes (up to 100 luminaires). Also, our sensors are pre-configured with basic functionality to work out-of-the-box. This reduces the time between installing and commissioning connected luminaires using the Philips MasterConnect app.



EasySense<sup>®</sup>  
SNS2lx MC



EasySense<sup>®</sup>  
SNH2lx MC

### Compatible D4i/SR Drivers

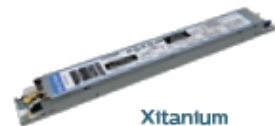
The EasySense SNS2lx MC and SNH2lx MC sensors are compatible with Xitanium D4i/SR drivers. To find the D4i/SR driver that fits your application needs and for product specifications, please visit us online at [www.Signify.com/xitaniumsr](http://www.Signify.com/xitaniumsr).



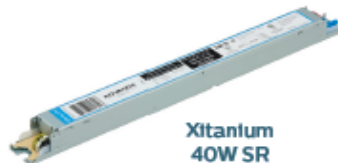
Xitanium  
FlexTune 40W SR  
XI040C110V050VWT1



Xitanium  
95W SR  
XI095C275V054VSF2



Xitanium  
20W SR  
XI020C056V054VPT1



Xitanium  
40W SR  
XI040C110V054VPT2



Xitanium  
75W SR  
XI075C200V054VPT3

### Switches (Interface between SNx MC sensors and "0-10" LED drivers)



Philips  
SWS200  
Zigbee Green  
Power Switch  
Scene Selector



Illumra  
ZBT-S1AWH  
Zigbee Self-Powered  
Single Rocker Wireless  
Light Switch



Illumra  
ZBT-S2AWH  
Zigbee Self-Powered  
Dual Rocker Wireless  
Light Switch



RunLessWire  
FOH-DSWH  
Battery-free &  
Wireless Dimmer  
Light Switch

### SR Bridge (0-10V Interface)



SRB-BS2



SRB-LD2



SRB-Lite



SMB-50



CMP

### Accessories

SR Bridges provide interface between EasySense sensors and 0-10V LED Drivers. See Appendix for details.

\* SNS2lxMC, where the "x" refers to our latest version of the EasySense sensor. Contact your sales representation to obtain the latest model number of our EasySense sensor.

# Portfolio

# SNS212/SNH212 MC Improvements compared to SNS/SNH211 MC:



Feature Improvement	Benefits
EasySense SNS212/SNH212 MC products are both SR & D4i Certified	<ul style="list-style-type: none"><li>• Sensors can still be best paired with broad portfolio of Advance Xitanium SR drivers and SR Bridges for all applications.</li><li>• D4i certification allows luminaire manufacturers to use any D4i certified LED driver for additional supply chain and design flexibility</li></ul>
EasySense SNS212/SNH212 MC products are Zigbee 3.0 Certified	<ul style="list-style-type: none"><li>• Zigbee 3.0 enables further interoperability with third party systems and products such as gateways and switches.</li><li>• Combined with D4i, we are bringing standardization and openness (heavily favored by DLC) to the core of our connected lighting solution.</li></ul>
212 MC product family features a more powerful microprocessor	<ul style="list-style-type: none"><li>• Improved commissioning speed</li><li>• Increased level of security</li><li>• Ready for feature enhancements and portfolio additions in the future.</li></ul>



- **Wireless Networked Lighting Control System must be Philips MasterConnect or equivalent with below features.**

- Easy commissioning and configuration with state-of-the art APPs available on iOS and Android phones
- No gateway required for the operation of wireless lighting control system.
- Allows wireless group (wireless network) size of up to 120 nodes per room/area. Project can have many such groups.
  
- LLLC with D4i & Zigbee certification
- LLLC with integrated Occupancy sensing, Daylight harvesting and wireless communication.
- LLLC with out-of-the box occupancy sensing and daylight harvesting right after installation
- LLLC with open protocol interfaces for Driver (SR/D4i) and wireless (Zigbee and BLE).
- LLLC with simple 2 wire connection to LED driver.
- LLLC with Zhaga Book 20 compliant mounting bracket.
- DLC NLC QPL listed lighting control system
  
- Allows for complete system set up (commissioning and configuration) for lighting projects without any internet connection.
- Allows for complete project back up to cloud and sharing with other installers/facility manager when internet connection becomes available.
- 
- Easy commissioning facilitated by luminaire selection with normal flashlight pointing.
- Easy commissioning facilitated by luminaire selection with BLE based discovery and selection when pointing is not possible.
- Allows for easy display of luminaire brand/model in the APP (in conjunction with D4i/ANSI C134.4 Part 251 compliant digital drivers or bridge in the luminaire).
- APP based energy reporting using real measured values from SR/D4i drivers (no gateway required). Feature listed on DLC NLC.
- Wireless control of tunable white luminaires with programmable scenes comprising of CCT and Dim level.
  
- Configuration of sensor parameters at group, zone and individual fixture levels (eg. Occupancy/Daylight sensing can be enabled or disabled for individual sensors in a zone or group to best fit application needs).
- Configuration of lighting scenes at group, zone and individual fixture levels (eg. a presentation scene can switch projector lights off and rest of the lights at dim level)
- Configuration of high-end trim, partial on and background (low end) light levels
- Default configuration for granular dimming
- Configuration of all lighting control modes (auto-on/auto-off, manual-on/auto-off, manual on/off).
- Configuration for occupancy sensing or vacancy sensing.
- Configuration option for lights to never switch off (eg. Stairwell, corridor etc.)
  
- Highly flexible switch placement with no wires - Compatibility with off the shelf Kinetic Zigbee Green power switches
- Highly flexible switch placement with no wires - Compatibility with battery operated Zigbee Green power switches
- Lighting control option with no switches at all using end-user APP

**Key Specification points :**  
**Philips MasterConnect System with**  
**EasySense SNS212 MC**



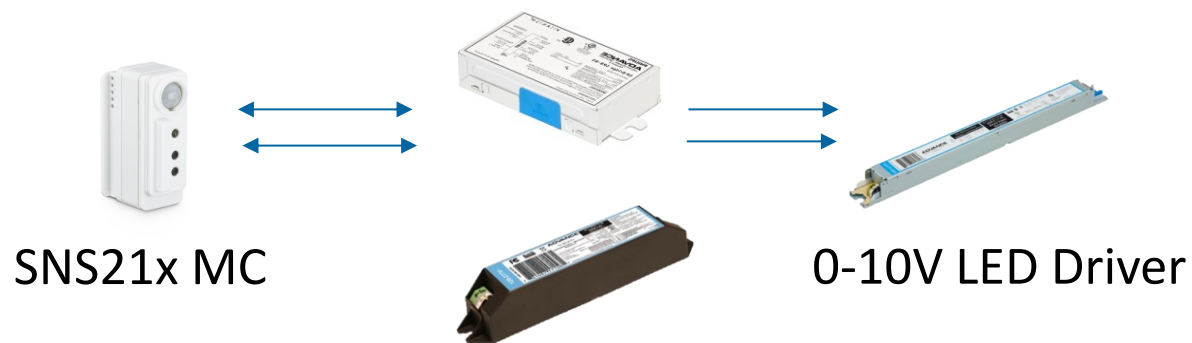
# Appendix



# SR Bridge Applications



## SR Bridge (Interface between SNS21x Sensor and 0-10V LED Drivers)



SRB-BS (Bottom Leads)



SRB-LD (Side Leads)

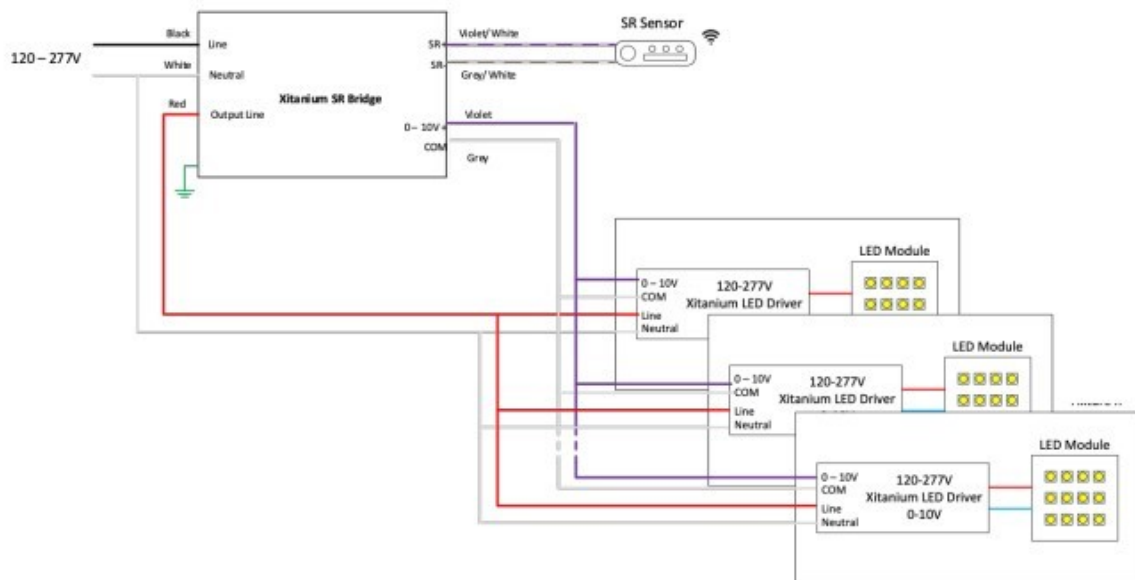


SRB-Lite (Connectors)

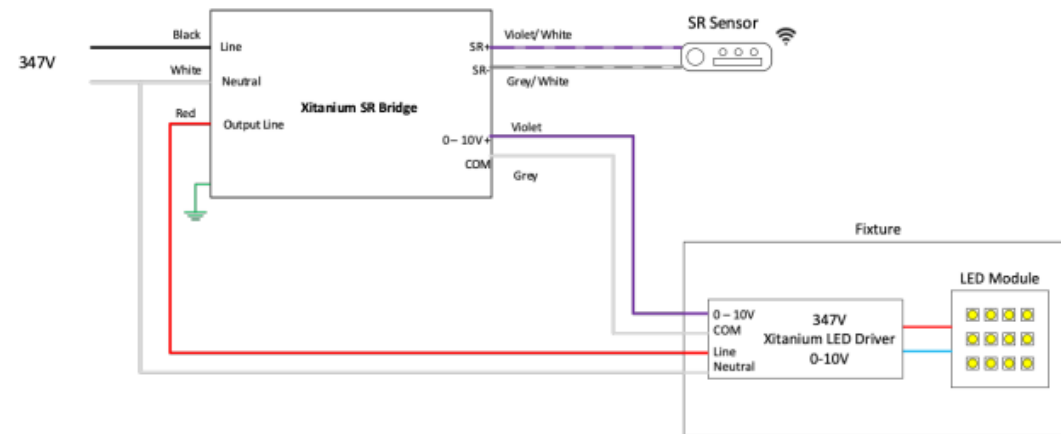


Spec.	SRB-BS2/ SRB-LD2	SRB-Lite
Voltage	120V-347V	120V-277V
VA Rating	6.1A @120V 4.6A @277V 3.7A @347V	5.0A @120V 3.0A @277V
Surge Protection	2.5 kV	<b>6.0 kV</b>
DALI-2/D4i Bus Power Supply	YES	YES
Aux Power Supply		12V @ 100mA
Energy Metering	Measured	Estimated
Ambient Temp (inside fixture compartment)	-20 °C to 60 °C	-40 °C to 75 °C
Application	Indoor	Indoor/ Industry/Outdoor

## SR Bridge Applications



Luminaire with multiple 0-10V drivers



Luminaire with 347V 0-10V driver

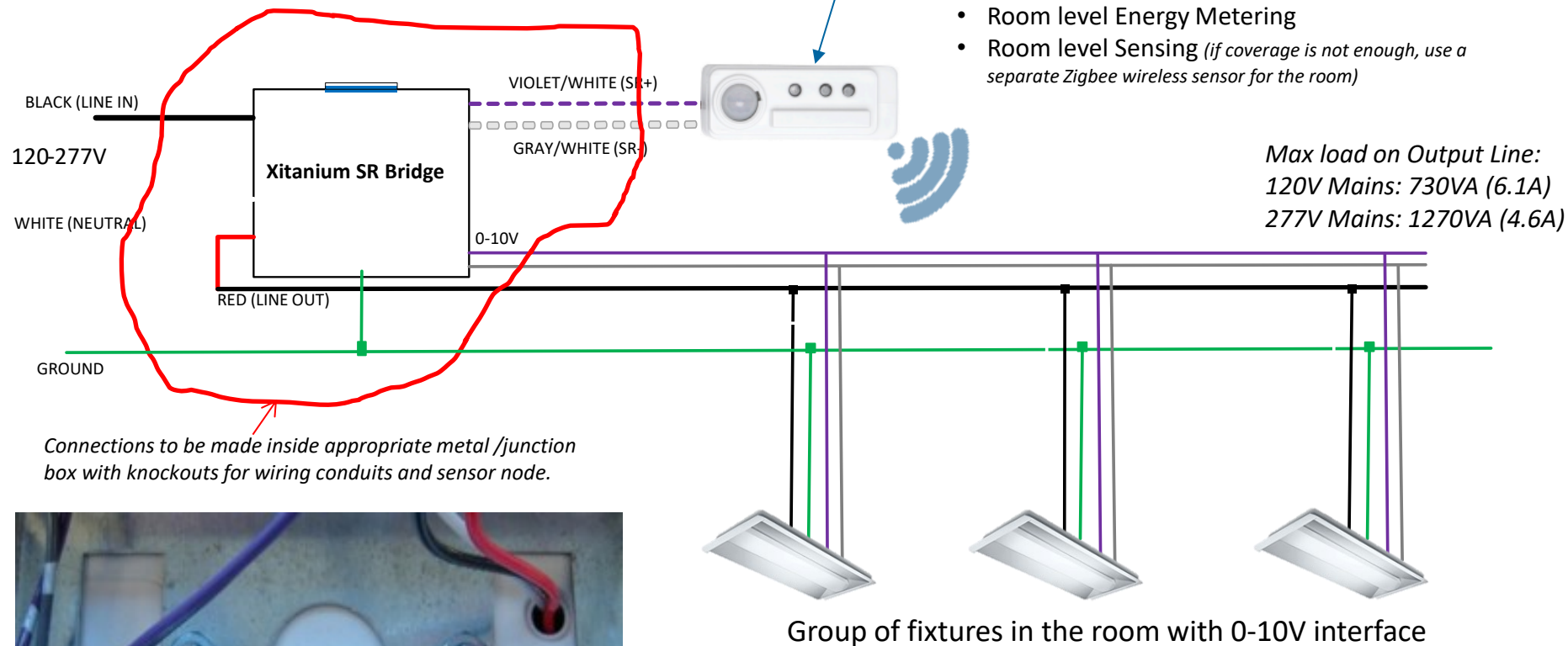


# SR Bridge Application (multiple 0-10V luminaires)



SNS21x MC (with Ceiling Mount Bracket)

- Room level ON/OFF/Dimming
- Room level Energy Metering
- Room level Sensing (if coverage is not enough, use a separate Zigbee wireless sensor for the room)



Connections to be made inside appropriate metal /junction box with knockouts for wiring conduits and sensor node.

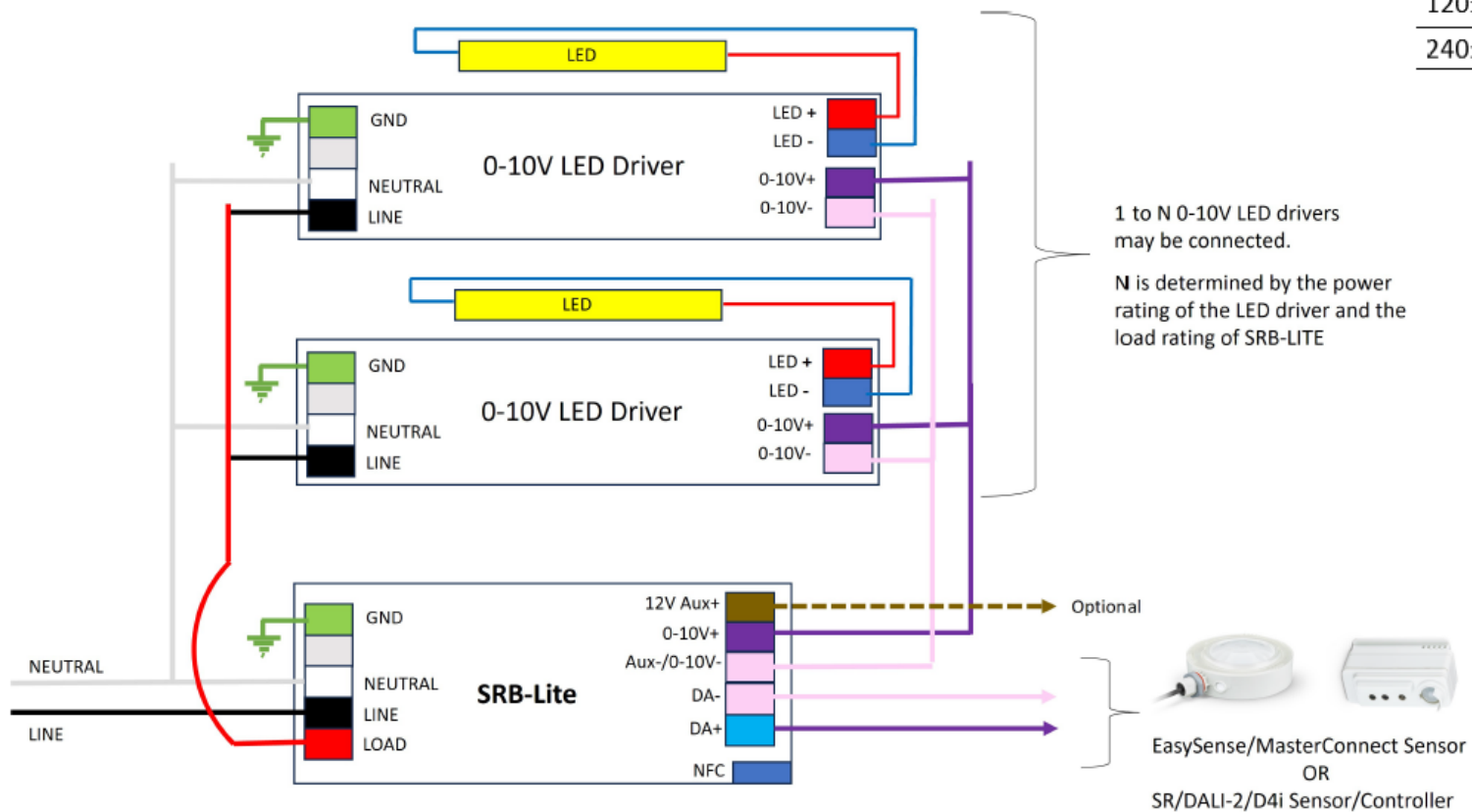


SR Bridge (SRB-BS) may be mounted on the cover plate of above metal box with proper slots for mounting screws and wires.

# SRB-Lite Application

## Specifications

Input Voltage (Vac)	Max Load (VA)	Stby Power (W)	Surge Protection Common/Diff (KV)
$120 \leq V_{in} < 240 \text{Vac}$	600	< 1.0	> 6.0
$240 \leq V_{in} \leq 277 \text{Vac}$	831		



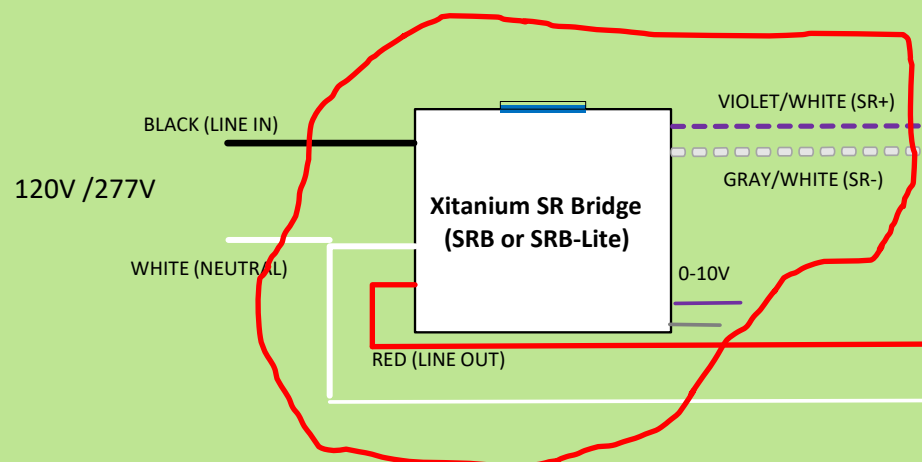
Luminaire with multiple 0-10V drivers



BMS Integration

Plug-load Control

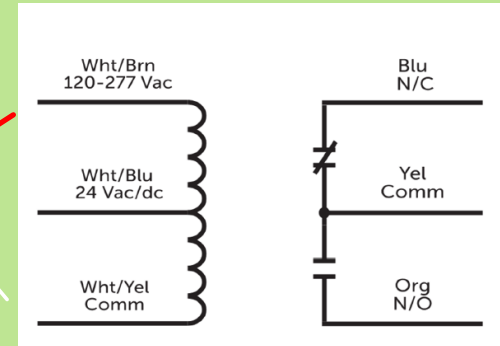
# Dry Contact interface to BMS Controller using SR Bridge



SNS21x MC (with Ceiling Mount Bracket)

- Commissioned as a part of the group of sensors in the room
- If the room is Occupied, the sensor will send ON command to the SR Bridge. Switched output of SR Bridge will turn ON.
- If the room is un-occupied and timers expire, the sensor will send OFF command to SR Bridge. Switched output of SR Bridge will turn OFF.

Connections to be made inside appropriate metal /junction box with knockouts for wiring conduits and sensor node.



BMS Controller with Dry Contact input



Using Bodine BFAI20

- Connect the switched HOT output of SRB to Bodine BFAI20 as shown above
- Connect required dry contact output (NC or NO) from BFAI20 to the BMS system controller.

\* This example shows Bodine BFAI20. Any properly rated product that translates switched AC mains input to NC/NO relay outputs can be used.

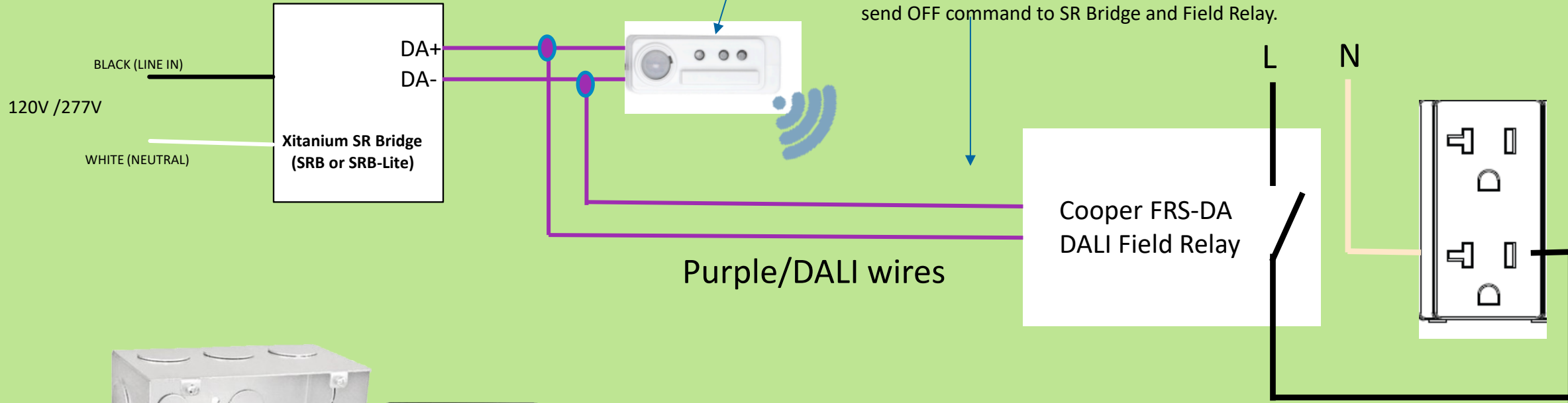
SR Bridge (SRB or SRB-Lite) may be mounted inside a 6x6 inch metal junction box. BFAI20 can be attached to the same JB.

# Plug load Controller using SR Bridge



SNS21x MC (with Ceiling Mount Bracket)

- Install & commission separately to activate plug-load control based on occupancy status of the room/space.
- If the space is Occupied, the sensor will send ON command to the SR Bridge and Field Relay.
- If the space is un-occupied and timers expire, the sensor will send OFF command to SR Bridge and Field Relay.



FRS-DA Switches power to 20A Receptacle

Connections to be made inside appropriate metal /junction box with knockouts for wiring conduits and sensor node.  
 SR Bridge (SRB or SRB-Lite) may be mounted inside a 6x6 inch metal junction box.  
 FRS-DA can be attached to the same JB.

