

The Philips logo, consisting of the word "PHILIPS" in a bold, blue, sans-serif font, is positioned in the top left corner. It is set against a white rectangular background that has a slight drop shadow and rounded corners.

Philips MasterConnect System

Signify LED Electronics
July 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

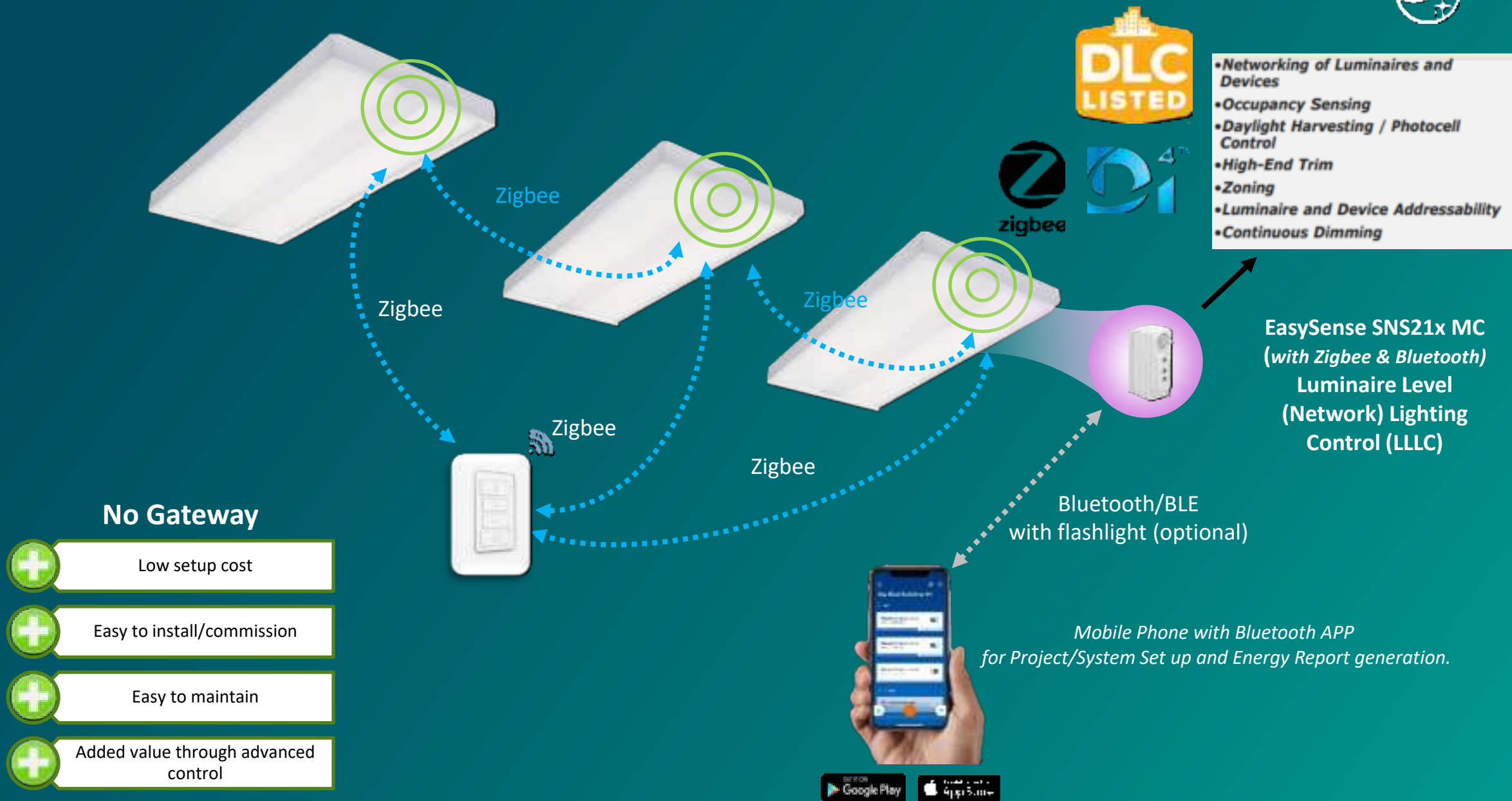
- Out of the box occupancy and daylight harvesting
- Wireless group occupancy sharing and group control
- Easy configuration via the Philips MasterConnect app
- Tunable White control with FlexTune SR driver
- Point & select luminaires with standard flashlight
- Room level energy report



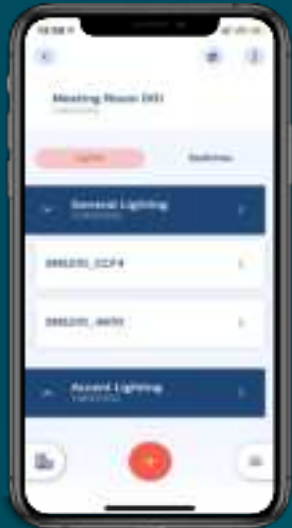
Cost effective

- 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



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)

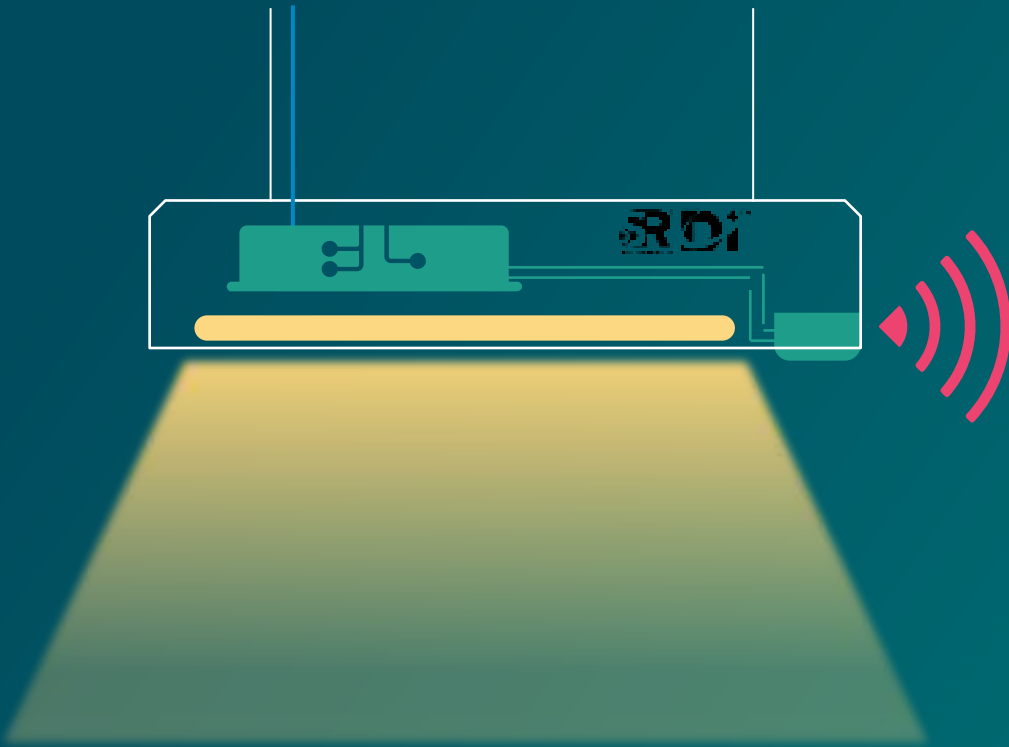
Configurable parameters include

- 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



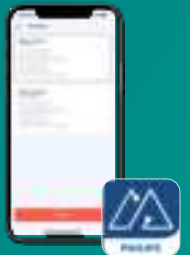
Advance SR driver (or D4i certified Driver)

- 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

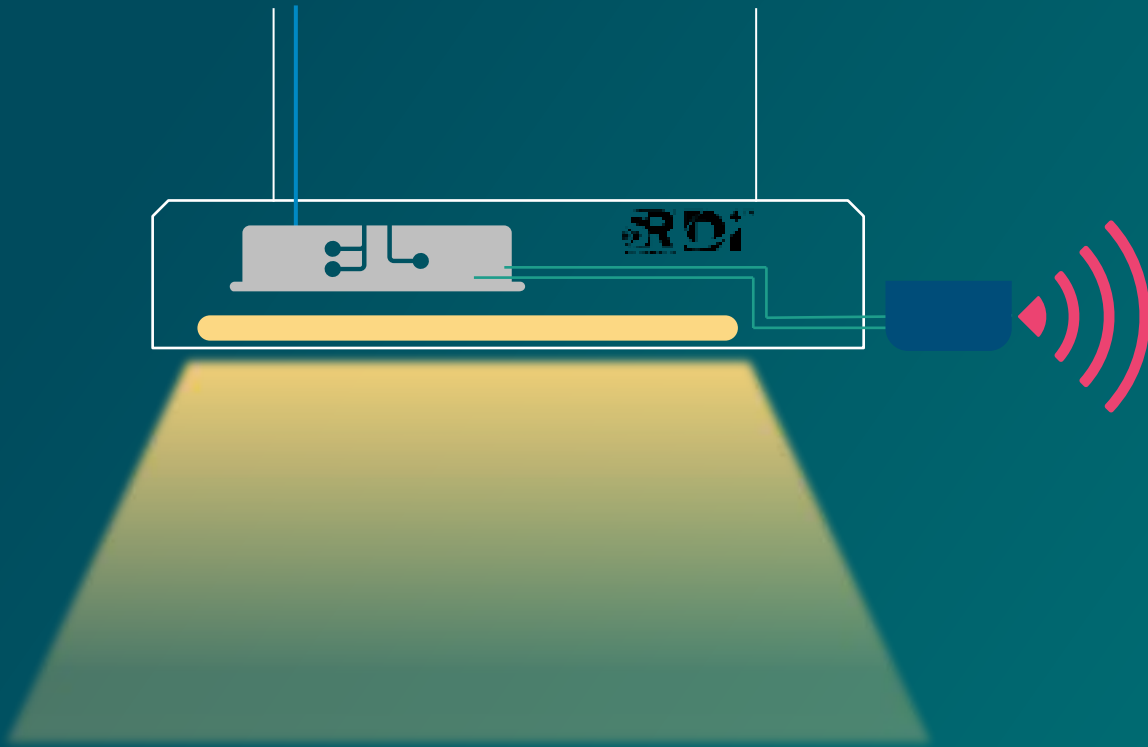


Wireless switches

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



High-Bay Application Required Components



EasySense SNH212MC



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
- 5m to 16m mounting height; IP65 rated



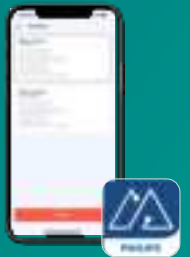
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Flexible manual control options

Wireless Switches & MC Control App

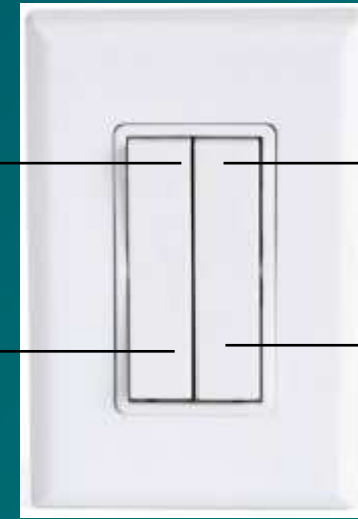


Philips MC control app



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

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



Illumra ZBT-S2AWH (Kintetic)

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

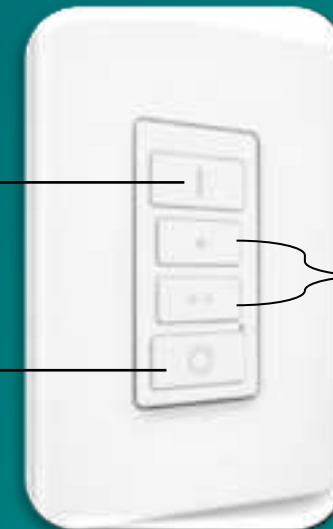
Short: **SCENE 2**
Long: **CCT DOWN**

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**



Philips SWS200 (Battery)

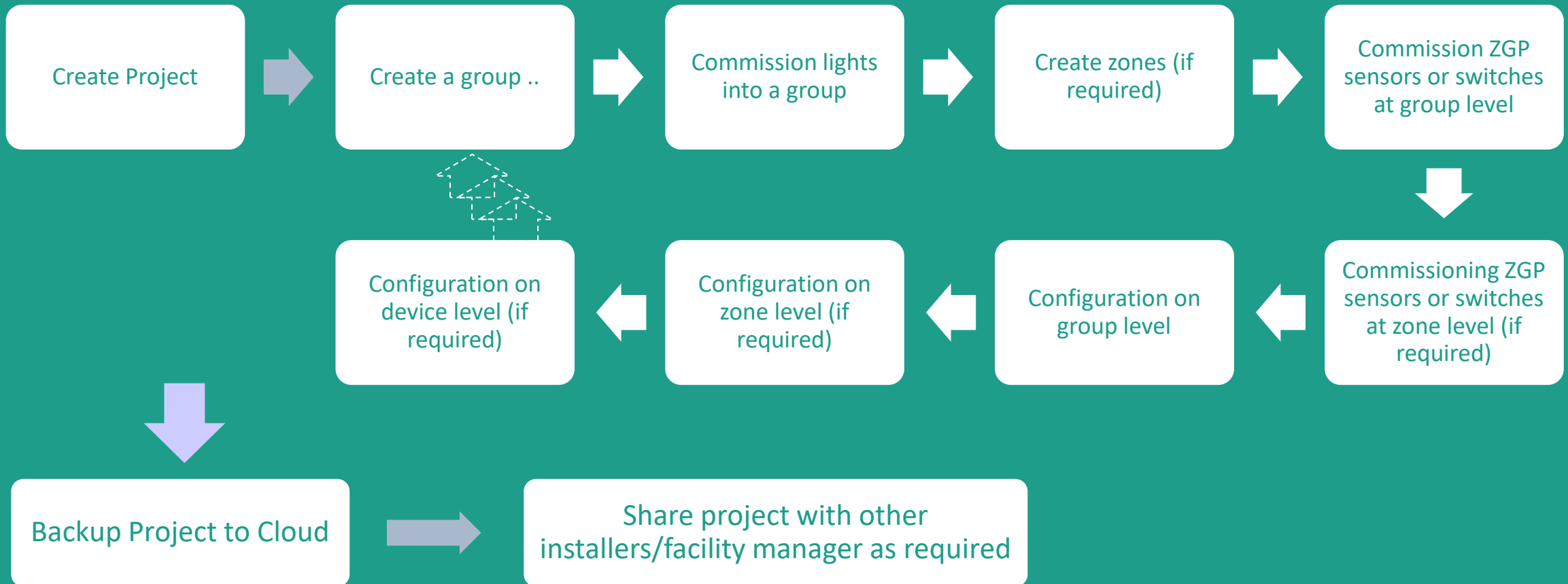
Short: **Scene 1/2**
Long: **CCT Up/Down**

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	ZBT-S1AWH	(purchased via Illumra suppliers)		Kinetic.	Available in popular colors. 
Illumra	ZBT-S2AWH	(purchased via Illumra suppliers)		Kinetic.	Available in popular colors. 
Philips	SWS200	913701046713		Battery powered	Very easy to commission From SNS/SNH211 MC and higher models. (Not compatible with SNS210 MC).
RunLessWire	FOH-DSWH	(via RunLessWire suppliers - including Amazon & DIY)		Kinetic.	Part of Hue family. Contains <i>both</i> single and dual rockers for local install.
Philips	UID8451/10	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[®]
SNS 21x MC



EasySense[®]
SNH 21x MC

Compatible D4i/SR Drivers

The EasySense SNS21x MC and SNH21x 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.



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 "0-10V" 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

* SNS21xMC, 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.

www.usa.lighting.philips.com/products/lighting-components/masterconnect

Portfolio

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

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



Product availability

Product	Order Code (12NC)	Availability	Last Order Date
EasySense SNS212 MC	929003416313	1 st June 2024	N/A
EasySense SNH212 MC	929003416413	Mid Q3-2024	N/A
EasySense SNS211 MC	929003417313	Now	31 st January 2025
EasySense SNH211 MC	929002721813	Now	31 st January 2025





MasterConnect System – product roadmap using SNx212 technology:

Product	Timing
EasySense SNS412 MC (RF only device)	Q4-2024
EasySense Occu-DL BP IP20 sensor MC (Battery Powered Occupancy & Daylight sensor)	Q4-2024
EasySense SNM212 MC (Bottom Mount High-bay Sensor)	Late Q4-2024
MC Gateway for HCL Scheduling (circadian lighting) and project Dashboard	Q1-2025
MC Wireless Plug-load controller with 0-10V output	
MC Wireless Fixture Adapter for 0-10V drivers	



- **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 Application

SR Bridge

Interface between SNS21x Sensor and 0-10V LED Drivers



SRB-BS (Bottom Entry)



SRB-LD (Side Entry)



Specifications:

Input Voltage	120/277/347V
Switched Output	Red wire
Max. Load requirements:	
	6.1A @ 120V/208V
	5.3A @ 240V
	4.6A @ 277V
	3.7A @ 347V

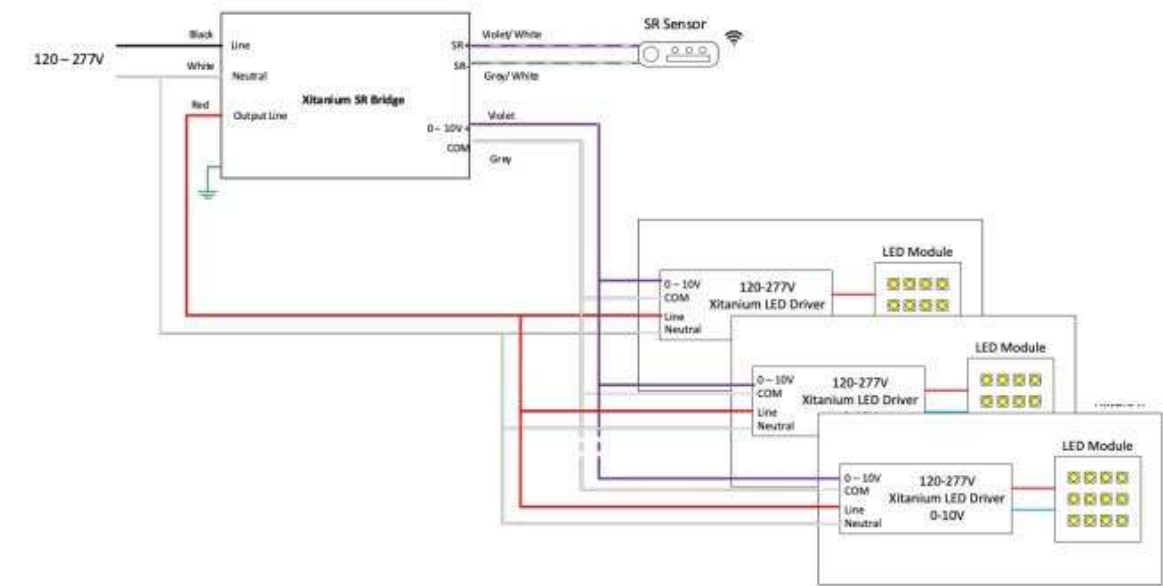
Class 2 Dimming Interface 0-10V:
Violet wire (0-10V+)
Grey wire (0-10V-)

SR Sensor Control Interface:
Violet/White wire (SR+)
Grey/White wire (SR-)

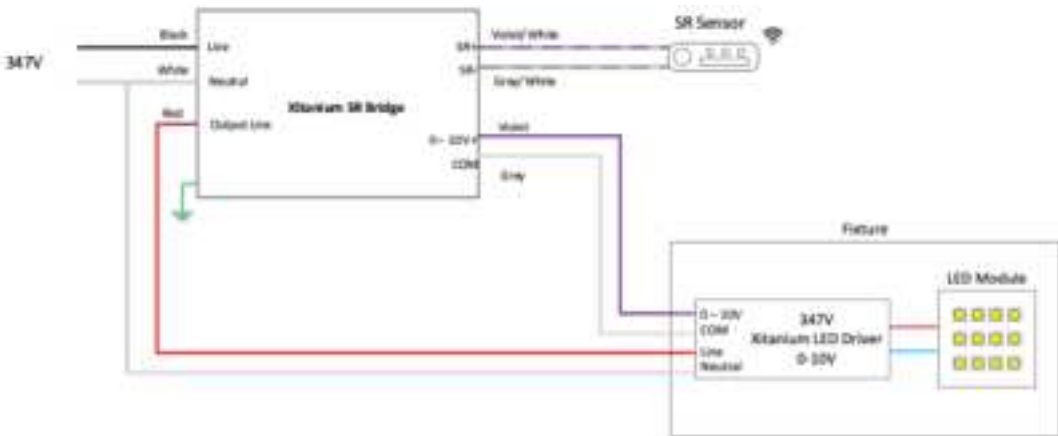
Note: See Appendix A for recommended maximum number of Drivers per SR Bridge. For more detailed information for the SR Bridge see the Design-in Guide which can be found by visiting:
www.philips.com/xitaniumsr/na



SR Bridge Applications



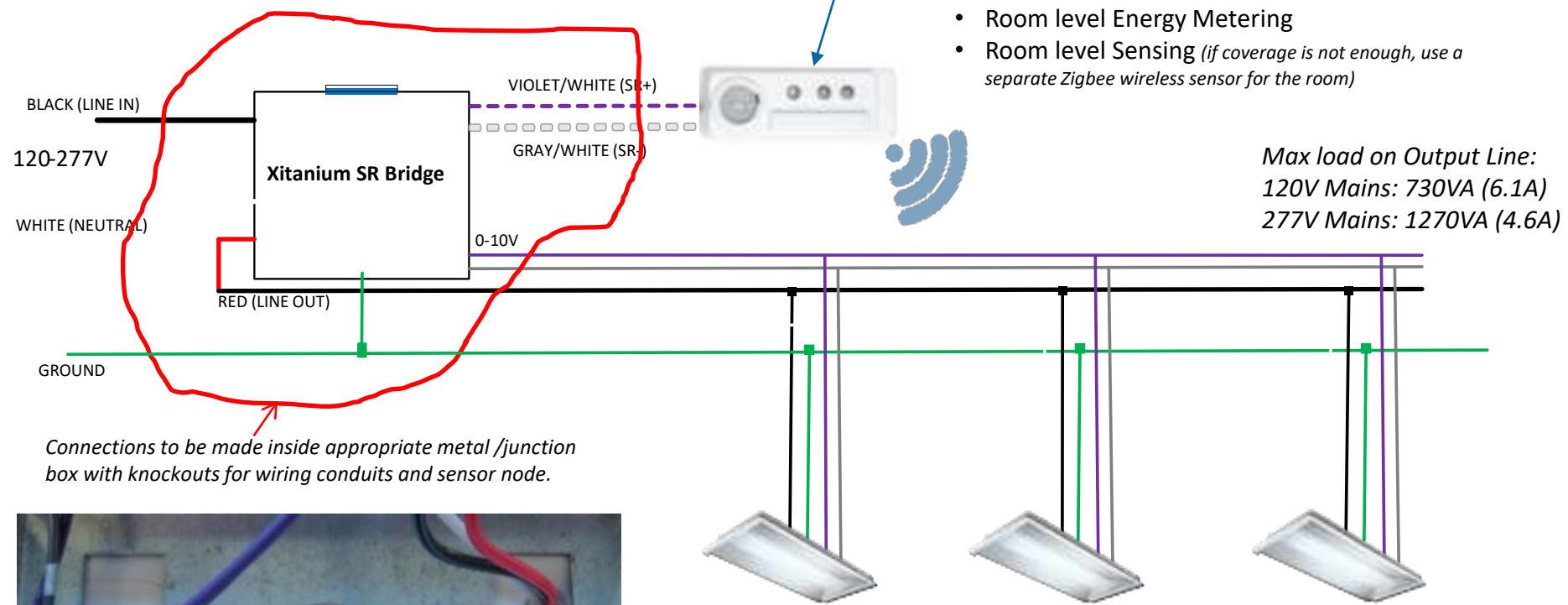
Luminaire with multiple 0-10V drivers



Luminaire with 347V 0-10V driver



SR Bridge Application (multiple 0-10V luminaires)



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.

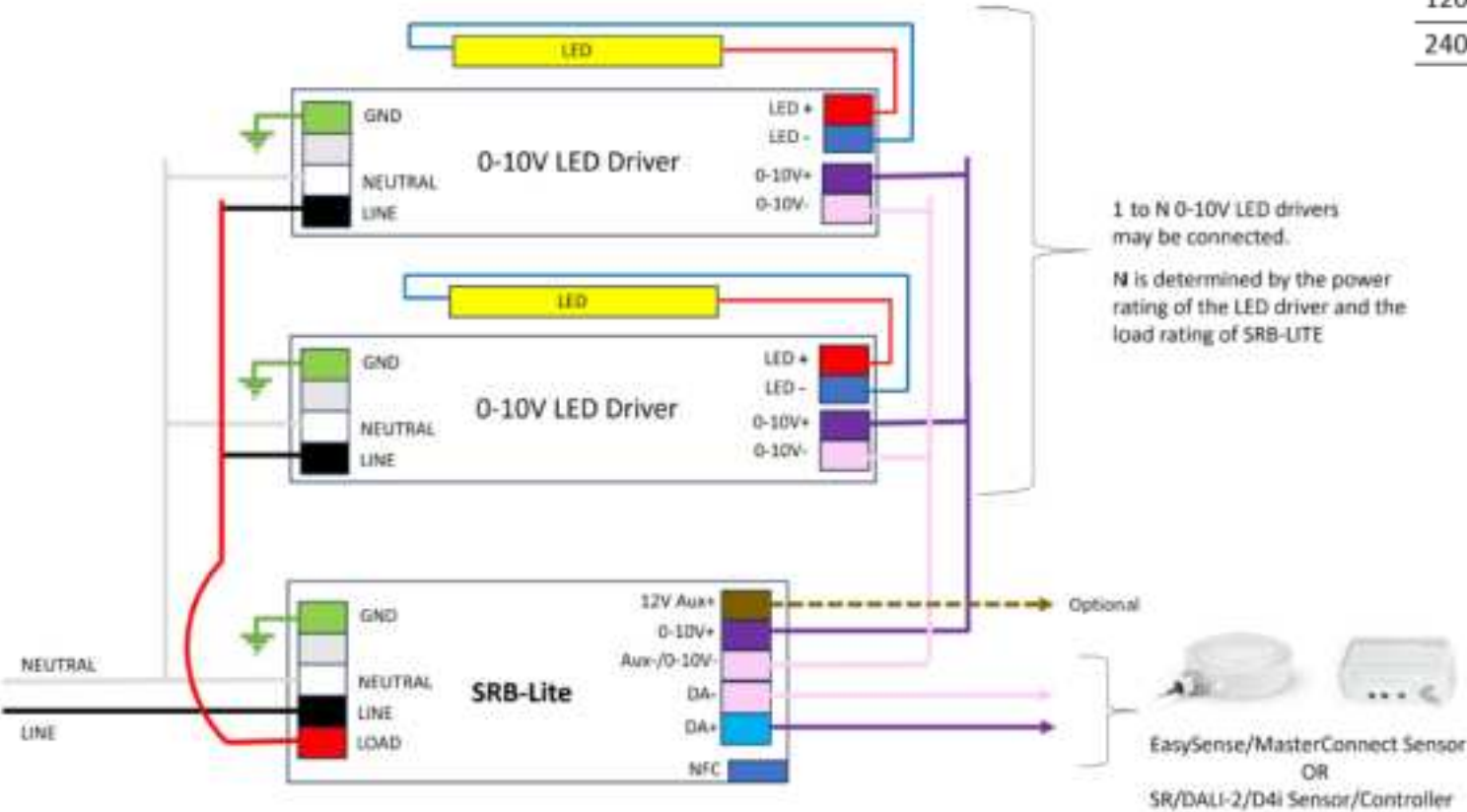
Group of fixtures in the room with 0-10V interface



SRB-Lite Application

Specifications

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



Luminaire with multiple 0-10V drivers

Options for BMS Integration

- Commissioned as a part of the group of sensors in the room

-
- Diagram illustrating the wiring for the Xitanium SR Bridge. The bridge is connected to a 120V / 277V power source. The wiring includes:
- BLACK (LINE IN) connected to the top terminal.
 - WHITE (NEUTRAL) connected to the bottom terminal.
 - RED (LINE OUT) connected to the bottom terminal.
 - 0-10V signal line connected to the bottom terminal.
 - VIOLET/WHITE (SR+) connected to the top terminal.
 - GRAY/WHITE (SR-) connected to the bottom terminal.
- A red line indicates the power path from the 120V source through the bridge to the 0-10V signal line. A blue arrow points to the bridge, and a blue arrow points to the 0-10V signal line. A blue arrow points to the 0-10V signal line.
- If the room is command to S

The diagram shows a central rectangular unit labeled **GTDU** with a **GROUND CASE** terminal at the bottom. On the left side, there are four terminals: **CAP** (VIOLET), **CAP** (VIOLET), **SWITCHED HOT** (BLACK), and **WHITE**. A note states: "The switched hot will control whenever the relay switches." Below these are two more **CAP** (ORANGE) terminals. On the right side, there are six terminals: **BLUE** (NO), **RED** (NC), **BROWN** (COM), **WHT/BLK** (CAP), **WHT/RED** (CAP), and **WHT/BLU** (CAP). A ground symbol is connected to the bottom of the unit.

A close-up photograph of the underside of the circuit board. A white rectangular battery is mounted on the right side, with red and black wires connected to its terminals. A central potentiometer is visible, with a white circular cap. To the left, a bundle of purple and black wires is connected to the board. Two silver-colored potentiometer knobs are also visible, one on the left and one on the right of the central potentiometer.

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

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