

Specification Data

Job Name	
Type	
Catalog #	
Comments	

PRODUCT OVERVIEW

The EMB-S2-FW embedded wireless controller opens an exciting integration path for LED Luminaires. The smaller size and lower cost make this DC- powered wireless controller versatile enough to be embedded in nearly any wattage LED Luminaire.

Pairing the EMB-S2-FW with a SimplySnap Site Controller makes it easy to comply with ASHRAE, Title 24, DLC NLC Indoor/Outdoor, and other energy requirements today and in the future.

KEY FEATURES:

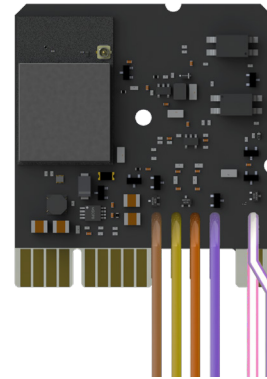
- Seamless SimplySnap Integration
- Simplified DC Design — mates with LED Drivers
- Secure AES128 Encryption
- DLC Certification for both Indoor and Outdoor
- Self-healing 2.4GHz SNAP Mesh Networking
- Secure, over-the-air software upgrades
- 2 Sensor Inputs: DC Motion and 0-10V Photocells

IEC 62386 DALI-2 Certified – D4i

- Uses +24V Aux power from the D4i LED Driver
- Requires DALI-2 / D4i LED Drivers
- DALI-2 /D4i Power Monitoring – Part 252
- D4i – Type D – Single-Master Controller – Part 351
- DALI-2 Linear Dimming, ON/OFF – Part 218
- Compatible with WattStopper DALI-2 FDP-301 Motion and Photocell

DIM to OFF LED Drivers

- 0-10V Dimming, ON/OFF
- No Power Monitoring
- Powered via LED Driver Aux Power



Powered by SimplySnap

Future DALI-2 Enhancements

- Luminaire Run Time - Part 253
- Luminaire Model Data - Part 251
- LED Driver Model Data – Part 102
- Surge Detection - Part 253
- Over Temperature Counters - Part 253
- Over Current Counters - Part 253
- RGBW Color
- Diagnostics and Alerts – Part 253

SPECIFICATIONS

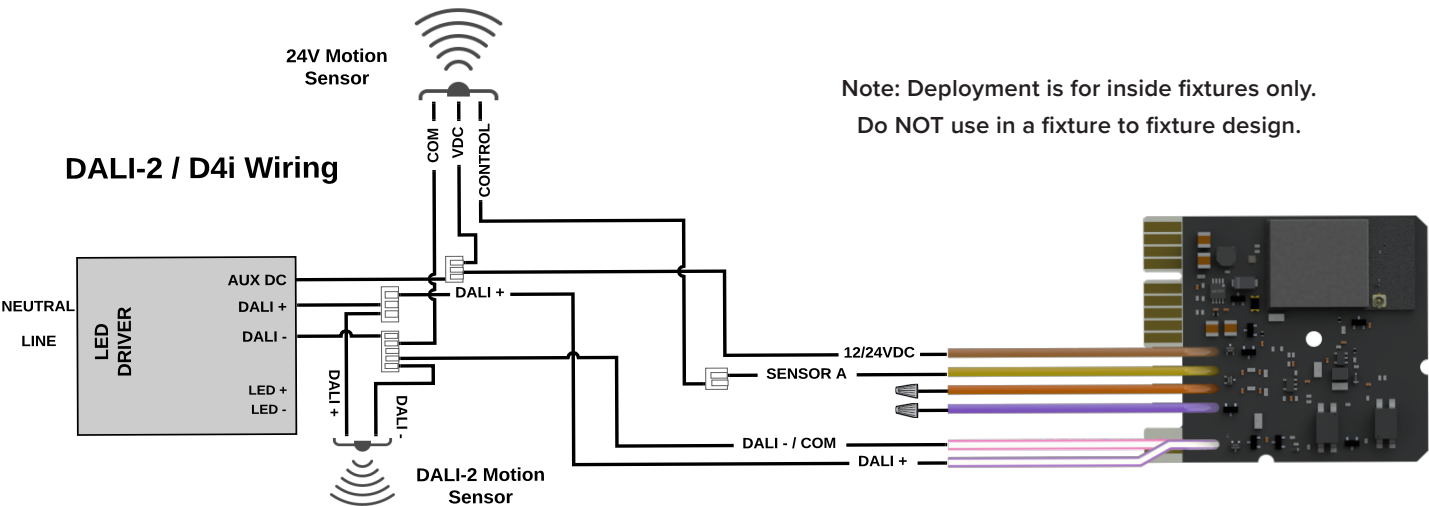
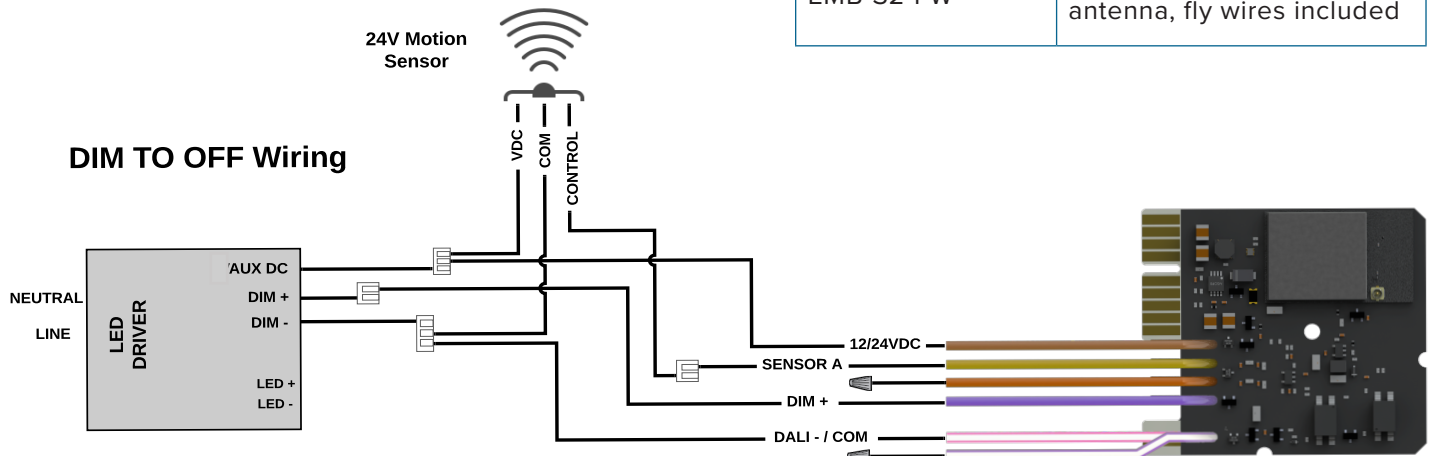
Dimensions	See Mechanical Datasheet for Engineering dimensions	
Input Power	12 to 24VDC, +/-10%, 700mW max	
Max Current Draw	58mA @ 12V; 33mA @ 24V	
Temperature	-40°C to +80°C	
Dimming	0-10V, 30mA (Max)	
D4i LED Driver	Maximum of 6 D4i LED Drivers, any D4i LED Drivers >4 will need the power supply disabled.	
Wire Size	18 AWG, 8" Wires, UL 1316 rated, 600V rated	
Sensor Input Specifications	Analog: 0-10V Digital: 0-24V	2 Available Software Select
Radio	SNAP 2.4GHz ; 802.15.4 +19 dBm Transmit Power -102 dBm Receive Sensitivity	
Certifications	UL Recognized Component; FCC/IC; DLC- Indoor/Outdoor DiiA - DALI-2 Certification	
Warranty¹	5 Years	

1. See www.synapsewireless.com/warranty for warranty terms



WIRING DIAGRAM EXAMPLES

Product #	Description
EMB-S2-FW	Bare Board, Internal antenna, fly wires included



Status LED- when powered

Color	Meaning
RED	No Network Found (Communication Lost)
BLINKING GREEN	Network Found, Controller Not Configured (Device not yet added to SimplySnap)
GREEN	Network Found, Controller Configured (Normal Operation)

Signal/Wire Colors

Signal	Wire Color
DALI+	VIOLET WITH WHITE STRIPE
DALI-/COMMON	PINK WITH WHITE STRIPE
DIM+	VIOLET
SENSOR INPUT B	ORANGE
SENSOR INPUT A	YELLOW
POWER	BROWN

SimplySnap Site Controller options- required for all deployments

Part #	Description	Application
SS450-002	SimplySnap, WiFi, Verizon LTE, Industrial Metal Enclosure	Indoor
CBSSW-450-002	Central Base Station SS450-based Model with 5-button switch and NEMA 4X enclosure	Indoor/Outdoor

Patented – Virtual marking at <https://www.synapsewireless.com/about/patents>