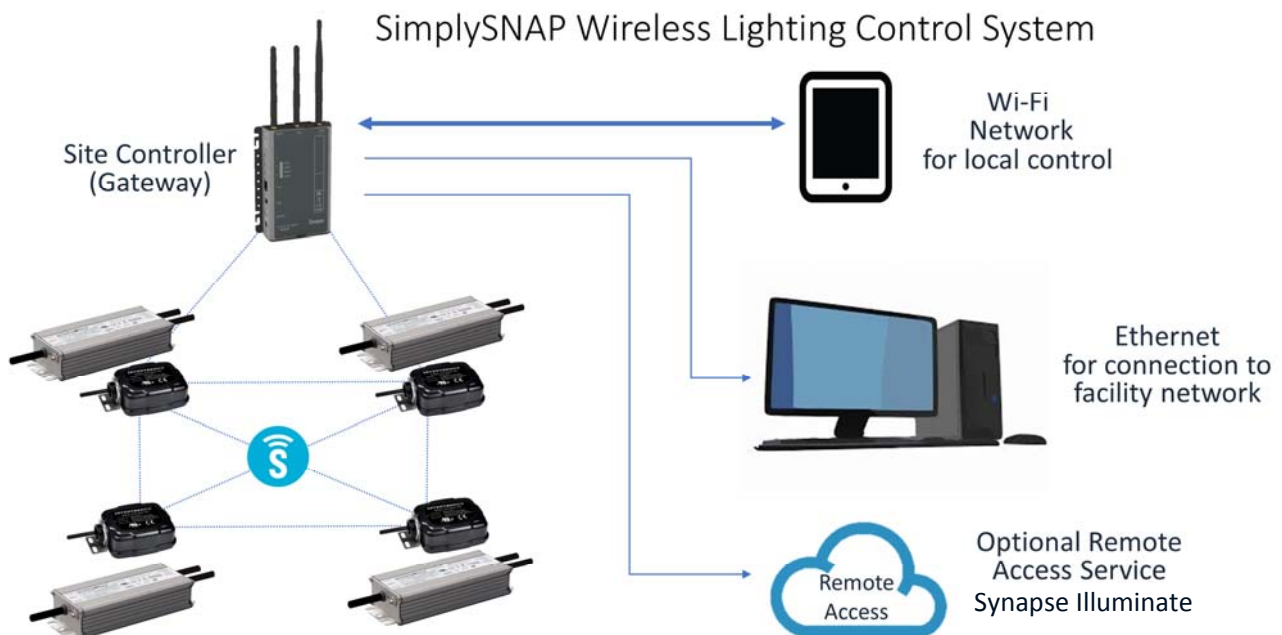# INVENTRONICS

powered by synapse

Features

- Compatible with Synapse SimplySNAP
- DALI-2 Compatible
- 0-10V Dimming
- 2 DC Sensor Inputs, Occupancy/Motion, Photocell, or Switch
- Powered by Driver Auxiliary Supply
- Convenient Mounting Options: Inside or Outside Luminaire
- Indoor / Outdoor - Rated for IP65 and UL Dry/Damp/Wet Location
- Suitable for Direct Sunlight Applications
- Supports Driver Dim-to-Off
- External Antenna, with Range up to 1km*

Description

The CNV-SNAP-DD2 wireless control module opens an exciting integration path for LED luminaires. This compact, DC powered wireless controller is versatile enough to be embedded in nearly any size LED luminaire. The mounting bracket and 1/2" NPT mount allows for ease of installation. The CNV-SNAP-DD2 features two sensors inputs that can control an individual light or a zone of lights and are configurable using Synapse SimplySNAP software. Pairing the CNV-SNAP-DD2 with a SimplySNAP Gateway makes it easy for users to comply with Title 24, ASHRAE 90.1, and other energy saving requirements for today and in the future. The CNV-SNAP-DD2 is DALI D4i compatible, allowing for the ability to read information from D4i certified LED drivers. Also included is a 0-10V dimming interface to allow for use with traditional Controls Ready drivers. This control module operates at 2.4GHz and is FCC certified. For added flexibility, an antenna bulkhead is utilized to facilitate the use of an external antenna, offering an effective range of approximately 1km*. The CNV-SNAP-DD2 is an ideal solution for applications including high bay, stadium, horticulture, mast, and parking lot lighting.

SimplySNAP Wireless Lighting Control System

With compatible antenna. Antenna not included.

Specifications are subject to changes without notice.   *All specifications are typical at 25℃ unless otherwise stated.*

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Models

P/N	Connection to LED Driver	Connection to Synapse System
CNV-SNAP-DD2	UL Wire (BLACK/WHITE, PURPLE/WHITE, GRAY/WHITE, PURPLE, GRAY, YELLOW, ORANGE)	SNAP Mesh Network

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Vaux Voltage	5 V	12 V	24 V	Support the maximum output current of LED driver to 100%Io
Iaux (Vaux Current) at 12V	-	60 mA	-	0.7W Max.
Dim+ Voltage	0 V	-	10 V	
Dim+ Sink Current	0 mA	-	10 mA	
DALI-2 Bus Voltage	-	16 V	22.5 V	
DALI-2 Bus Current	-	-	250 mA	
Sensor A+	0 V	-	24 V	Analog: 0-10V; Digital: 0-24V Selectable in SimplySNAP software
Sensor B+	0 V	-	24 V	

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Dimensions Inches (L × W × H) Millimeters (L × W × H)		3.62 x 2.71 x 1.14 92 x 69 x 29		Without the bracket
Net Weight	-	230 g	-	With the bracket and nut

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-40 °C	-	+70 °C	Humidity: 10% RH to 95% RH;
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 95% RH;

Radio Specifications

- Synapse SNAP 2.4GHz; 802.15.4
- +20 dBm Transmit Power
- -103 dBm Receive Sensitivity

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Safety & EMC Compliance

Safety Category	Standard
UL/CUL	UL8750, CAN/CSA-C22.2 No. 250.13
CE	EN 61347-2-11, EN 61347-1, EN 62479, ETSI EN 300 220-1 V2.4.1, ETSI EN 300 220-2 V2.4.1, ETSI EN 301 489-1 V1.9.2, ETSI EN 301 489-3 V1.6.1

EMI Standards	Notes
EN 55022[1]	Conducted emission Test & Radiated emission Test
FCC Part 15[1]	ANSI C63.4 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired operation.

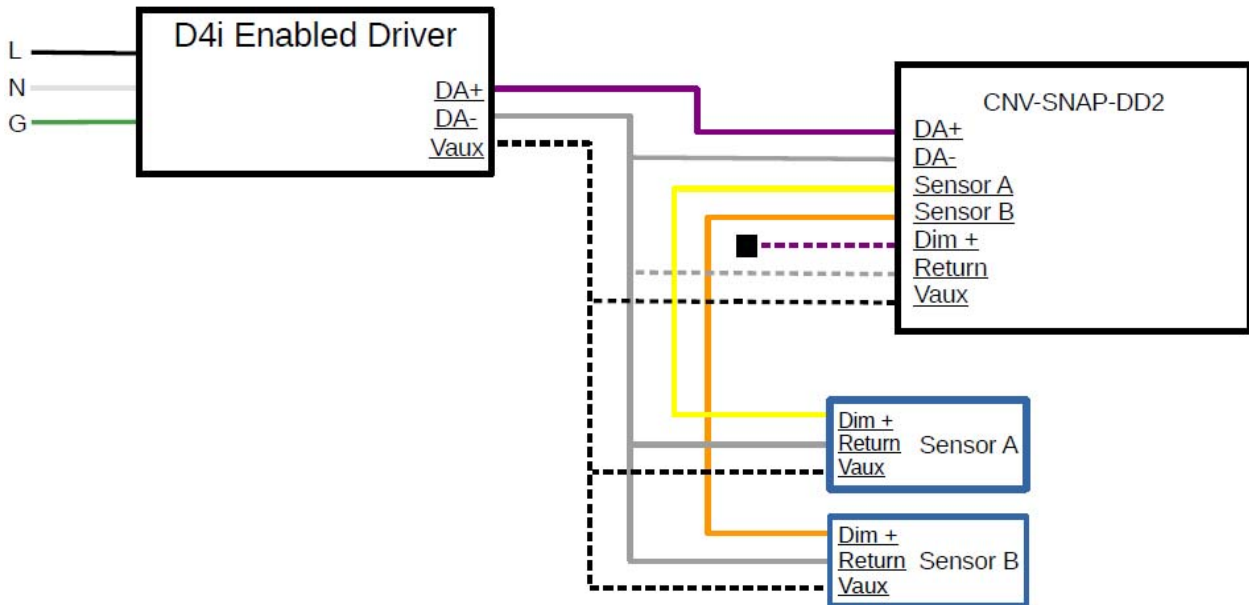| EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS

Note: (1) The CNV-SNAP-DD2 is considered as a component that will be operated in combination with final equipment. since EMI performance without the bracket will be affected by the complete installation, the final equipment manufacturers must re-qualify EMI Directive on the complete installation again.

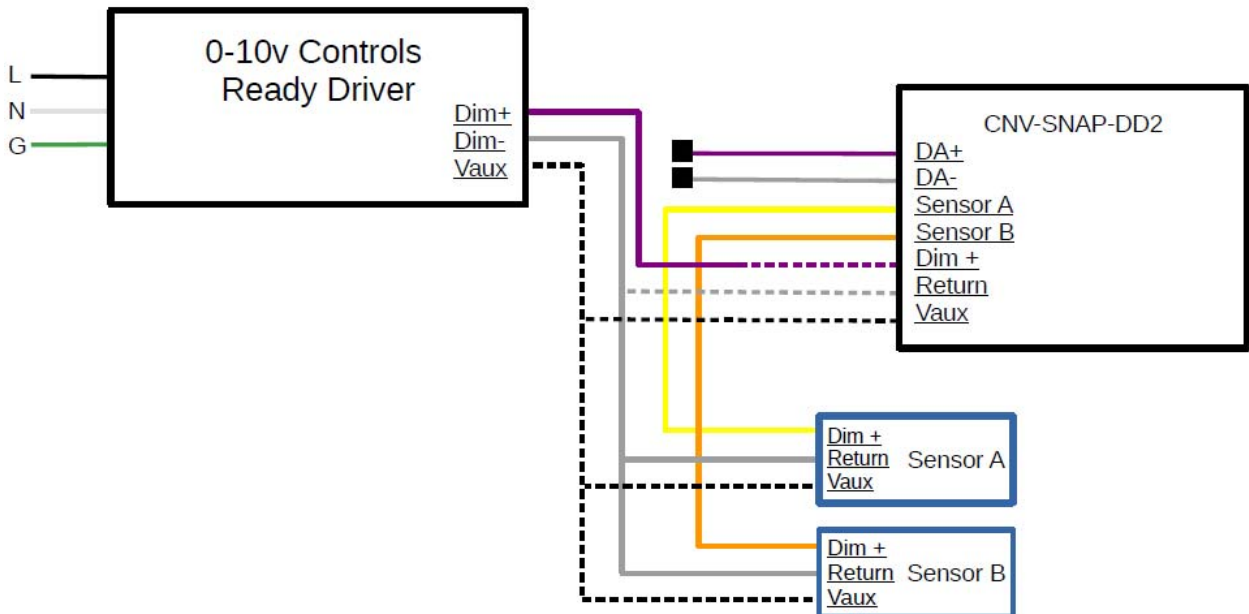## Function Definition of Interface (Connection to LED Driver)

Wire Color	Name	Description
BLACK/WHITE	Vaux	Input from driver's 12V or 24V auxiliary power
PURPLE/WHITE	Dim+	The dimming signal output to control the driver
GRAY/WHITE	Dim-	Return for Vaux, Dim+, Sensor A, and Sensor B
PURPLE	DA+	DALI-2 Bus +
GRAY	DA- / Return	DALI-2 Bus - / Return
YELLOW	Sensor A+	Sensor A Input
ORANGE	Sensor B+	Sensor B Input

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Wiring

D4i Enabled LED Driver Wiring Diagram

0-10V Controls Ready Driver Diagram

Note: It is required to terminate any unused connections.

Operation Notes

- For more operation details, check https://help.synapsewireless.com/
- Please note that for any Synapse network to operate, a SimplySNAP Site Controller is required.

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Antenna Installation

- Antennas need to be installed properly. Using a wrench will break the pin in the bulkhead.
- RP-SMA antennas are required, and SMA antennas cannot be used or substituted.
- For more information on best practices for antenna installation, see:
  https://help.synapsewireless.com/resources/best-practices/simplysnap-install.html
- For installation instructions, please see CNV-SNAP-DD2 Installation Notes

Recommended Antennas

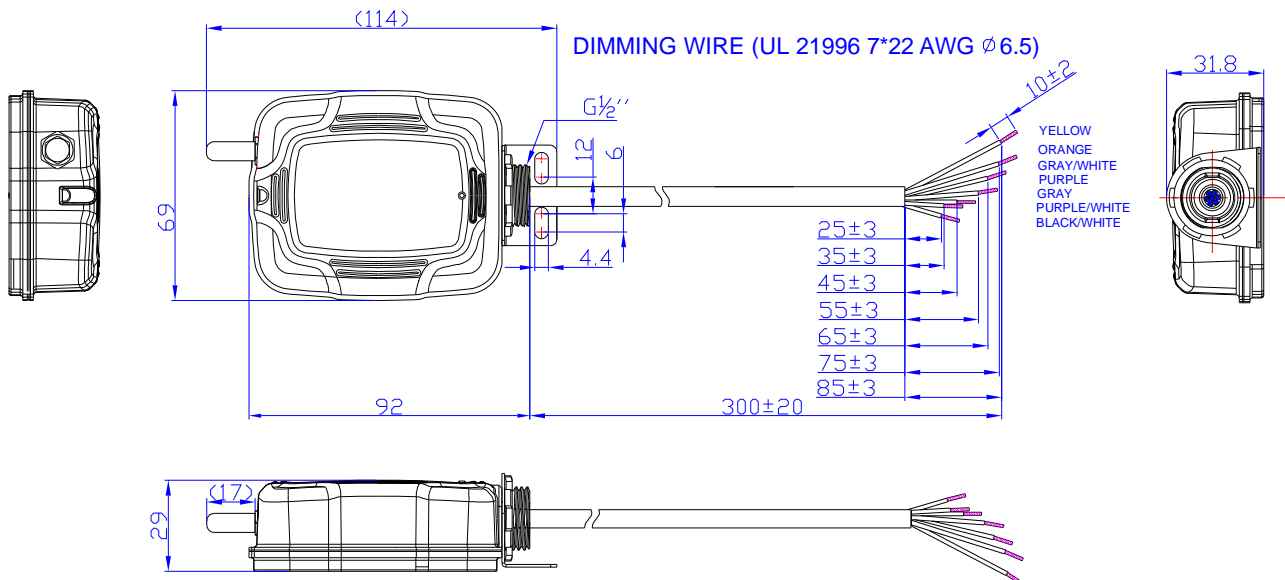| Manufacturer Part Number	Manufacturer	Application	HGT Inch	Antenna Type	Avg Gain (dBi)
W1027	Pulse	Articulating Indoor	4.9	Dipole	3.2
W5010	Pulse	Straight Outdoor	5.12	Dipole	1.5
W5001	Pulse	Right Angle Outdoor	5.04	Dipole	1.5

An antenna is not included with CNV-SNAP-DD2.

Compatible Driver List

- Compatible driver list please refer to the: CNV-SNAP-DD2 Compatible List

Compatible Sensor Lists

- Compatible Motion Sensors
- Compatible Photocell Sensors
- Compatible Daylight Harvesting Sensors

Mechanical Outline

DIMMING WIRE (UL 21996 7*22 AWG ⌀6.5)

YELLOW
ORANGE
GRAY/WHITE
PURPLE
GRAY
PURPLE/WHITE
BLACK/WHITE

PROJ:

Unspecified tolerance:±1

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RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

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Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2020-12-22	A	Datasheet Release	/	/
2021-03-25	B	Product image	/	Updated
		Wiring - D4i Enabled LED Driver Wiring Diagram	/	Updated
		Wiring - 0-10V Controls Ready Driver Diagram	/	Updated

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