Grüv® FR *Active*CLEAN™

Flare Regressed Linear LED with Vyv antimicrobial light

amerlux
A Delta Group Company

Features

*Active*CLEAN's™ high-intensity, antimicrobial wavelengths of 405 nanometers protect your business with the most beautiful, comfortable, non-glare illumination. Utilizing Vyv's signature UV-free antimicrobial technology, our spec-grade (Linea or Gruv) family of luminaries provides continuous surface cleaning by creating spaces that are inhospitable for **bacteria**, **fungi**, **yeast**, **mold**, **mildew** and **viruses** to live, on any surface—and in any application—the light touches.

Product Overview

Type:	Recessed Lens Direct
Wattage:	3W-16W/ft
Lumen Output:	3,153 max; 50.1 lm/W
Color Temp:	3000K, 4000K
CRI:	85 typ.
Dimming:	0-10V, 1% dim to off (standard)
	Lutron Hi-lume® EcoSystem, 1% dim, fade to off
	DALI dimming, 1% dim

PROJECT:

TYPE:

~~PRODUCT DISCONTINUED~~

Fixture Summary *(see following pages for more information)*

Ceiling Types

4" Tech Zone	6" Tech Zone	9/16"	15/16"	Gyp Board	Millwork
No	Yes	Yes	Yes	Yes	Yes

Performance Chart

Wattage Per Foot	Delivered Lumens	LPW	Color Temp
16	3,153	50.1	4000k

Data is based on 4', 4000K 85CRI IES files available on website

Electrical Data

Wattage Per Foot		4' System Watts	4' Amps	8' System Watts	8' Amps
16	120V	62	0.52	124	1.0
	277V	61.1	0.22	122.2	0.44
9	120V	34.1	0.29	68.3	0.57
	277V	34.2	0.13	67.4	0.25

Electronic multi-volt (120-277VAC), constant current LED driver

CSA c US

3 year limited warranty
AMERLUX LED

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PROJECT: **TYPE:**

Ordering Information

_____ . __PL__ . _____ . _____ . _AW_ . _120/277_ . _____ . _____ . _____ . _____
      1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**   **10**

1   Model
GRUV-FR-FLG-VYV
GRUV-FR-GRID-VYV

2   Optics
PL - performance lens

3   Wattage (per foot)
_____ - (ex. 16 - 16W/ft, available in 3W/ft-16W/ft. 3 & 4W/ft require 4' min. length)

4   Color Temp
Dual Mode
DM30 - 3000K-85CRI, dual mode (2 circuit) white antimicrobial+light & violet enhanced antimicrobial
DM40 - 4000K-80CRI, dual mode (2 circuit) white antimicrobial+light & violet enhanced antimicrobial

5   Finish
AW - *Active*CLEAN™ white

6   Voltage
120/277

7   Length
_____

8   Configuration
IND[1] - individual fixture, 2' to 8' in 1' increments
CON - continuous run > than 8', specify to nearest foot
CUS - custom made to measure, +/- 1/8" of customer supplied field dimensions

9   Drivers
OFF-0-10V - 1% electronic dim to off, multi-volt (120-277VAC) constant current driver (standard)
HILUME-H-ECO - Lutron "H" Series, 1% dim, fade to off, EcoSystem
DALI - DALI Dimming 120-277VAC, 1% dim

Note: Review wiring diagrams on pages 6-9 for controls requirements

10   Options/Accessories
CP - Chicago Plenum (CCEA)
WHIP - 6' whip, 18/5 conductor
EMC-PF[2] - emergency circuit requires power feed located in last fixture section (for other locations consult factory)
PF[2] - Extra power feed for additional circuiting
EMB - emergency battery pack (not available for lengths under 4')

1 - Lengths less than 4' may have restrictions based upon wattage, lengths, drivers or other options.
2 - Not available with IND (individual) configuration.

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Specifications

Application
Commercial, Education and Healthcare recessed ambient lighting that can be customized with made to measure lengths.
*Active*CLEAN™ fixtures may be sold in all areas of the United States. Certain states/countries require additional state approvals which are currently in process. For the following, please contact Amerlux for all projects to confirm exact timing for approval: Colorado, Indiana, Hawaii, New Mexico, Oklahoma, Wyoming, Washington DC and Canada. These restrictions are subject to change at any time and will be updated periodically as additional approvals are completed.

Construction
Heavy gauge steel upper housing is secured to aluminum extruded   trim rails. Die-formed, cold-rolled steel internal components and external mounting brackets. Numerous configurations accommodate most architectural ceiling conditions.

Optical
All lenses are snap-in, extruded acrylic, with a maximum length of 8'. Amerlux's proprietary acrylic lens provide excellent transmission while effectively concealing source image.
PL - Performance Lens provides high efficiency with controlled lens surface brightness.

LED
Internal LED boards powered by Vyv's patented single-diode technology meets international standards for continuous and unrestricted use around people. Vyv stops the growth of and kills* viruses, bacteria, fungi, yeast, mold and mildrew with visible light.
*Testing on a non-enveloped virus (MS2 bacteriophage) showed a 99.985% reduction in controlled laboratory testing in 6 hours on hard surfaces. MRSA and E. coli showed 90%+ reduction in controlled laboratory testing in 24 hours on hard surfaces. Results may vary depending on the amount of light that is reaching the surfaces in the space where the product is installed and the length of time of exposure. Use of Vyv antimicrobial light is not intended to replace manual cleaning

Color Temperature Options: 3000K & 4000K
Dual Mode (DM__) is a 2-circuit option that allows for switching between white Antimicrobial+Light mode and Enhanced Antimicrobial mode which provides maximum enhanced antimicrobial impact through 405nm (violet) light. Switching can be controlled via switch, sensor or control system (see wiring diagrams)
 CRI: 85 typical; **R9**: 10 typical
 4-step bin
 Life: 36,000 hr., >70% of initial lumens (L70)
Note: On certain fixture lengths, there may be noticeable gaps of board missing when switching to the Enhanced Antimicrobial (405nm only, "violet" light) circuit on the dual mode boards. This is the normal and intended application.
How to use: To achieve the recommended amount of antimicrobial protection, it is recommended that a photometric layout is conducted on your space. The light level coming from the ActiveClean fixtures should be a minimum of 500 Lux (46.5 FC). Any indirect light from an ActiveClean fixture or ambient light from nearby fixtures should not be used in the 500 Lux (46.5FC) calculation. All ActiveClean fixtures should be used in conjunction with standard cleaning practices.

Electrical
Wiring: Supply wires are easily accessible through Access Plate on top of fixture.
WHIP: Optional factory installed 6' Greenfield whip (18/5 conductor) simplifies installation.
Wattage: 3W-16W/ft. (3W & 4W have a minimum length of 4'). For other wattages consult factory.
Emergency circuit via remote inverter or auxiliary emergency power supply (by others).

This product complies with IEEE C62.41 for surge endurance up to 2.5KV. Amerlux® recommends using additional surge protection with this unit (supplied by others), surge and over voltage damage is not covered under warranty.
EMC-PF - Emergency circuit requires power feed wire harness to be located in last fixture section for continuous runs. For other locations consult factory. Not available for individual (IND) configuration.
PF - Extra power feed for additional circuiting. Not available for individual (IND) configuration.

Drivers
OFF-0-10V - 1% electronic dim to off, multi-volt (120-277VAC) constant current driver (standard)
Optional Drivers:
HILUME-H-ECO - Lutron "H" Series, 1% dim, fade to off, EcoSystem
DALI - DALI Dimming 120-277VAC, 1% dim

Finish
AW - *Active*CLEAN™ white powder coat paint with anti-microbial coating. Baked on finish for maximum durability and color stability.

Configurations/Lengths
IND - Individual fixtures are made of single standard lengths of 2 ft to 8 ft (in 1' increments). These are stand alone fixtures with matching End Caps, supplied with the mounting hardware. Lengths less than 4' may have restrictions based upon wattage, lengths, drivers or other options.
CON - Continuous runs, > 8', specified to nearest whole foot length   in 1' increments. Runs made from standard lengths have Flat End Caps at the beginning and end of run. Runs > 60' may require second power feed. Each Housing has factory installed alignment pins. Mating fixtures are easily aligned and joined with "catch and latch" mechanisms out of sight, on top of the Housing. Wiring is made fast and positive with molded quick connectors.
CUS - Made To Measure runs are made to nearest 1/8"of customer   supplied field measurements or drawings. Custom lengths use the same hardware for hairline joining.

Mounting
Intended for use in 5/8" gypsum board, 9/16" & 15/16" Tee grid, and Screw Slot ceilings. For individual and continuous row applications.
Please note, fixtures to be installed before gypsum board ceiling have flat end detail.
GRUV-FR-FLG-A16 - flare regressed exposed flange , in 6" wide gypsum board ceiling aperture
GRUV-FR-GRID-A16 - flare regressed grid mount, in 9/16" & 15/16" Tee ceiling aperture (compatible with 6" TechZone™ & other 6" wide architectural ceiling systems)

Options
EMB - Emergency battery pack - 10W output power, 90 min of illumination time, up to 1300 lm of initial light output. Illuminated test-switch/charging indicator light is provided. Wattage consumption by EM: 2.5W/ft (4ft fixture), 1.66W/ft (6ft fixture), 1.25W/ft (8ft fixture). Request can be made to light up 4ft section on 8ft unit.

Certifications
Approved to UL standards for damp locations as tested by CSA
Intended for indoor use only
Chicago Plenum (CCEA) optional

Warranty
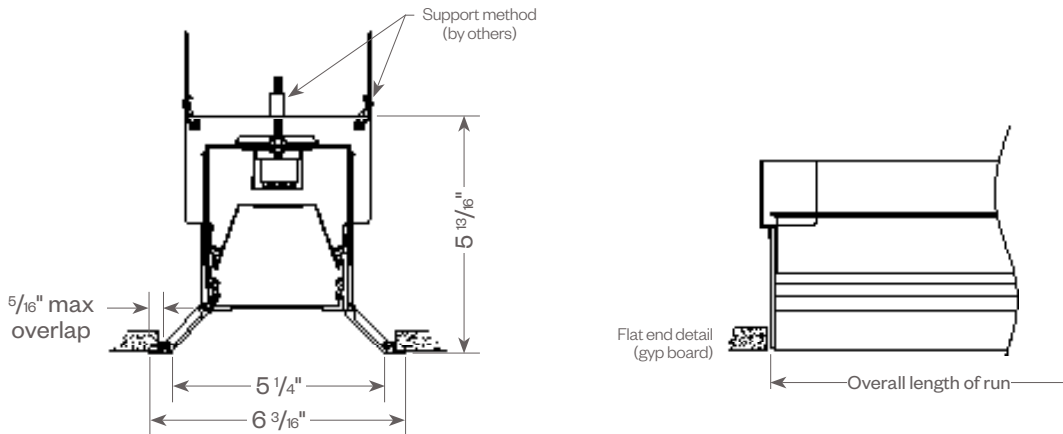Amerlux's 3 year limited warranty. Please consult Amerlux website for details.

LIT-2341 • 12/27/23 • Page 3 of 10
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Amerlux®, LLC • 178 Bauer Drive, Oakland, NJ 07436 • P: 973-882-5010 F: 973-882-2605 • amerlux.com

Grüv® FR *Active*CLEAN™

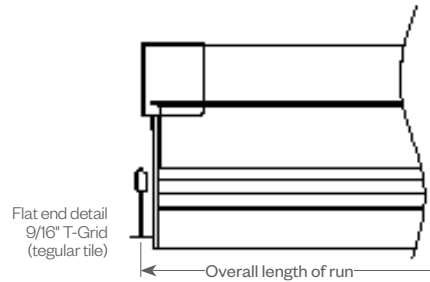Flare Regressed Linear LED with Vyv antimicrobial light

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PROJECT: **TYPE:**

GRUV FLARE REGRESSED, FLANGED (GRUV-FR-FLG)

Support method (by others)

5 13/16"

5/16" max overlap

5 1/4"

6 3/16"

Flat end detail (gyp board)

Overall length of run

GRUV FLARE REGRESSED (GRUV-FR-GRID)

Support method (by others)

5 3/4"

3 3/16"

5 1/16"

6"

15/16" T-Grid

9/16" Slot-Grid

9/16" T-Grid
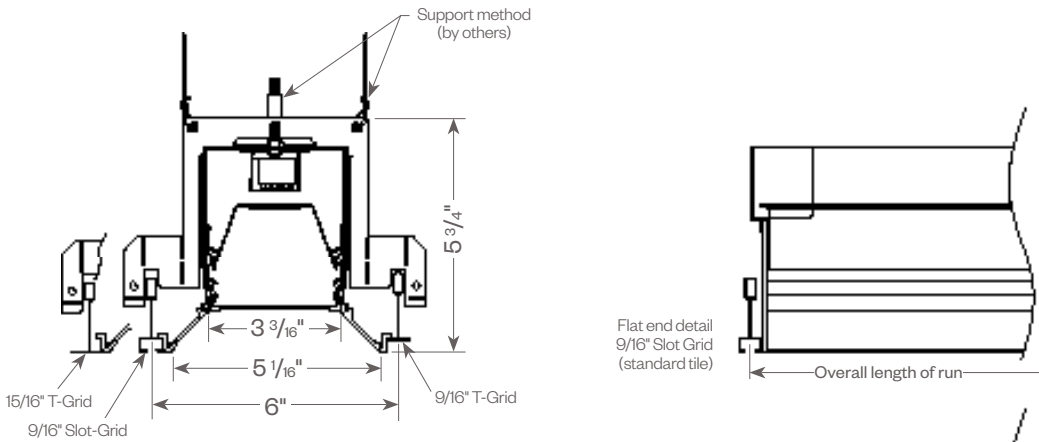
Compatible with 6" TechZone™ and other architectural ceiling systems.
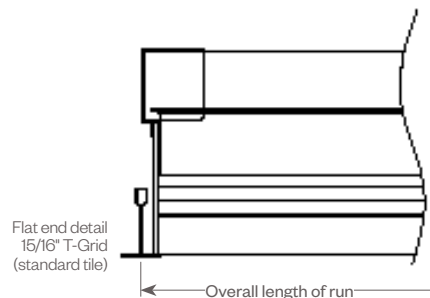
Flat end detail 9/16" Slot Grid (standard tile)

Overall length of run

Flat end detail 9/16" T-Grid (tegular tile)

Overall length of run

Flat end detail 15/16" T-Grid (standard tile)

Overall length of run

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PROJECT: **TYPE:**

FIXTURE DATA: (Complete photometric data (.ies format) available upon request)

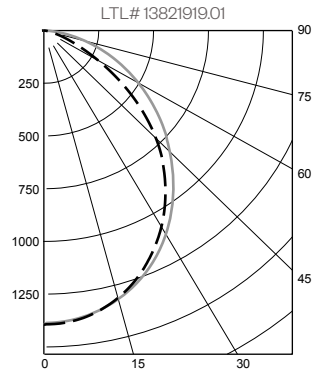**MULTIPLYING FACTORS:** (Multiplying Factor is based on 4000K-80 120V IES file on website)

Wattage:	3W	4W	5W	6W	7W	8W	9W	10W	11W	12W	13W	14W	15W	16W	CCT:	3000K	4000K
Factor:	0.19	0.25	0.31	0.38	0.44	0.50	0.56	0.63	0.69	0.75	0.81	0.88	0.94	1.0	Factor:	1.0	1.0

GRÜV1.5-FR PL 16W DM40 4000K 4FT

Total Watts: 63
Total Lumens: 3,153
Source: 182 White LED's

LTL# 13821919.01

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-40	1665	52.8
0-60	2729	86.6
0-90	3154	100.0
90-180	0	0.0

Total Luminaire Efficiency = 50.1 Lumens /Watt

COEFFICIENTS OF UTILIZATION
Effective Floor Cavity Reflectance 20%

RC		80		
RW	70	50	30	10
RCR				
0	119	119	119	119
1	110	106	102	99
2	101	94	88	83
3	93	83	76	70
4	86	75	66	60
5	79	67	59	53
6	73	61	52	46
7	68	55	47	41
8	64	51	43	37
9	60	47	39	34
10	56	43	36	31

Note: Values are expressed as percent of total lumen output delivered to the task surface.

LIT-2341 • 12/27/23 • Page 5 of 10
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DIMMING COMPATIBILITY:
Amerlux® Gruv fixtures are compatible with all major dimming protocols prevalent in the United States. Please see below for general compatibilities and wiring diagrams. Amerlux recommends testing your unique dimming configuration as the exact full configuration (Dimmer, Fixture Quantity, Voltage, etc) may affect dimming performance.

--- NOTE: INFORMATION BELOW IS FOR WIRED DIMMERS ONLY. FOR WIRELESS DIMMERS, CONSULT FACTORY ---

0-10V with Dry Contact Control
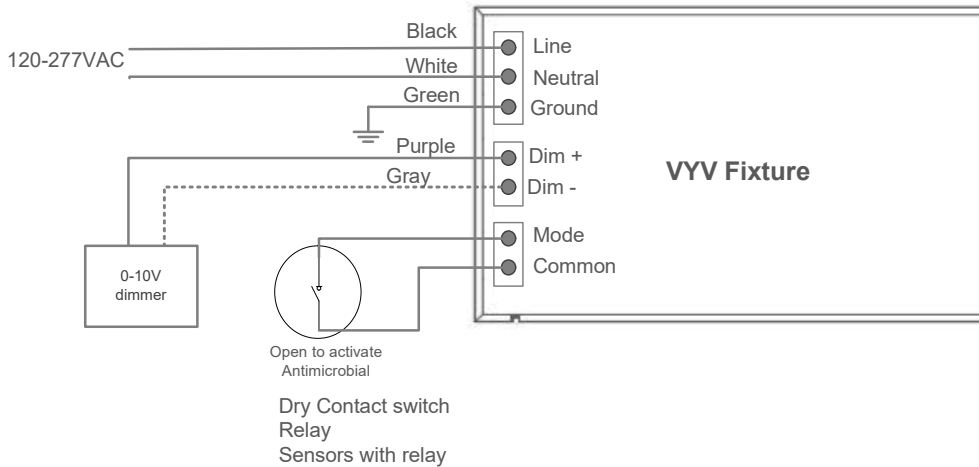
Low Voltage Independent Occupancy/Vacancy Sensor with Power Pack and 0-10V Dimming Control
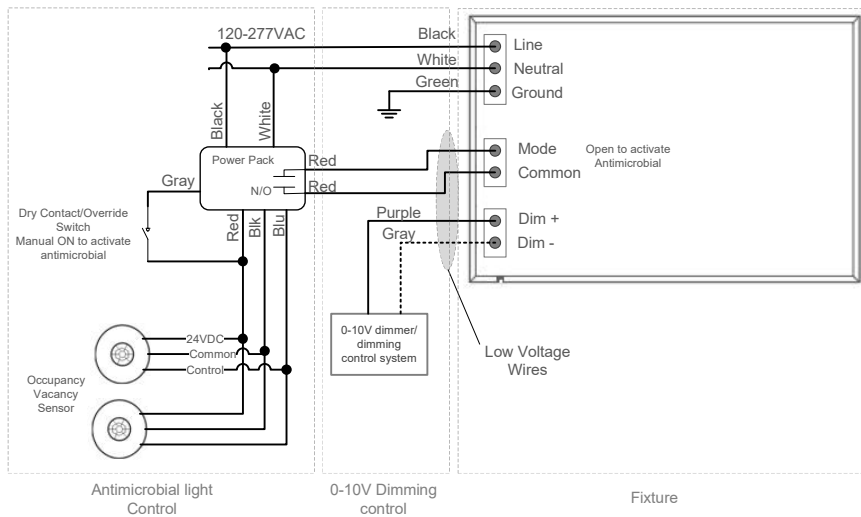
McWong	Leviton	Legrand/Wattstopper	IR-Tec
Powerpack: PSC-AC-PP-100	Powerpack: OSP20-RD0	Powerpack: BZ-200	Powerpack: PPU-300/301
Occupancy sensor:PSC-ID-CM-301	Occupancy sensor: OSC05-RMW	Occupancy sensor: DT-300/DT-305	Occupancy sensor: OS-361DT

Notes:

* Driver is 277VAC dimmable with appropriate dimmer (by others). All provided wiring diagrams show 120VAC wiring colors and method. Please refer to 277VAC dimmer installation instructions for 277VAC wiring diagrams.

† The absence of a dimmer from the lists above does not imply incompatibility. Please consult factory for compatibility inquiries.

LIT-2341 • 12/27/23 • Page 6 of 10
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Low Voltage Independent Occupancy/Vacancy Sensor with Power Pack and Lutron ECOsystem Dimming Control
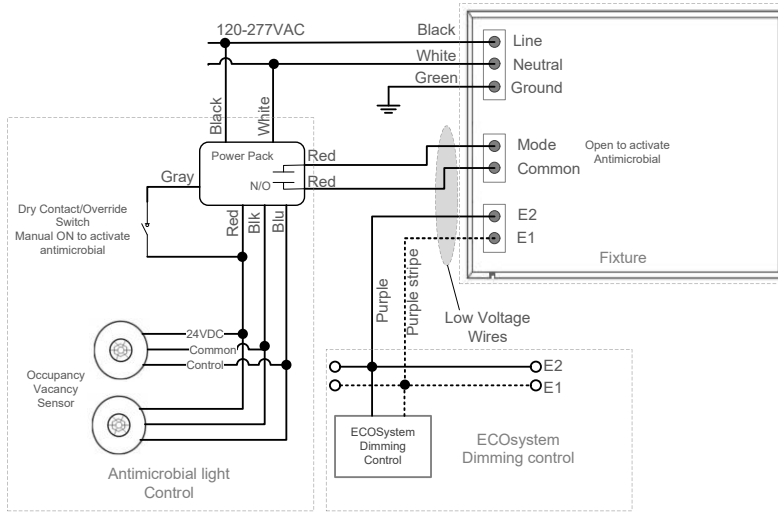
McWong Powerpack: PSC-AC-PP-100 Occupancy sensor:PSC-ID-CM-301	**Leviton** Powerpack: OSP20-RD0 Occupancy sensor: OSC05-RMW	**Legrand/Wattstopper** Powerpack: BZ-200 Occupancy sensor: DT-300/DT-305	**IR-Tec** Powerpack: PPU-300/301 Occupancy sensor: OS-361DT

Lutron Vive with 0-10V and Relay Control
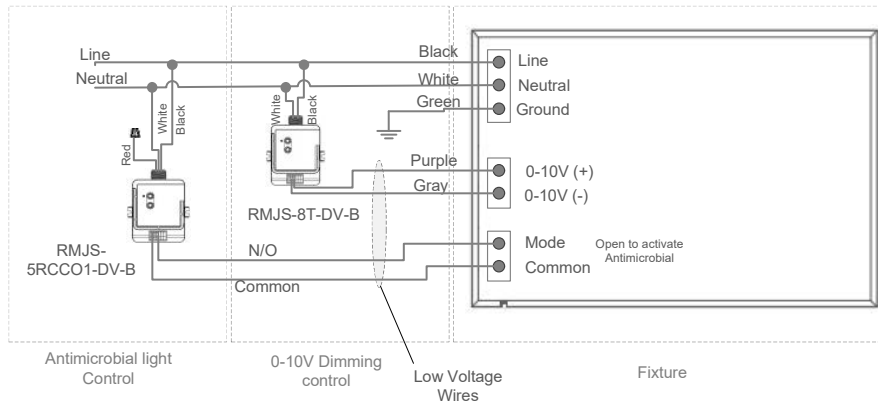
Pico Remote Control
(up to 10)

Radio Powr Savr
Occupancy
Sensor (ip to 10)

Notes:
* Driver is 277VAC dimmable with appropriate dimmer (by others). All provided wiring diagrams show 120VAC wiring colors and method. Please refer to 277VAC dimmer installation instructions for 277VAC wiring diagrams.
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Low Voltage Independent Occupancy/Vacancy Sensor with Power Pack and DALI Dimming Control
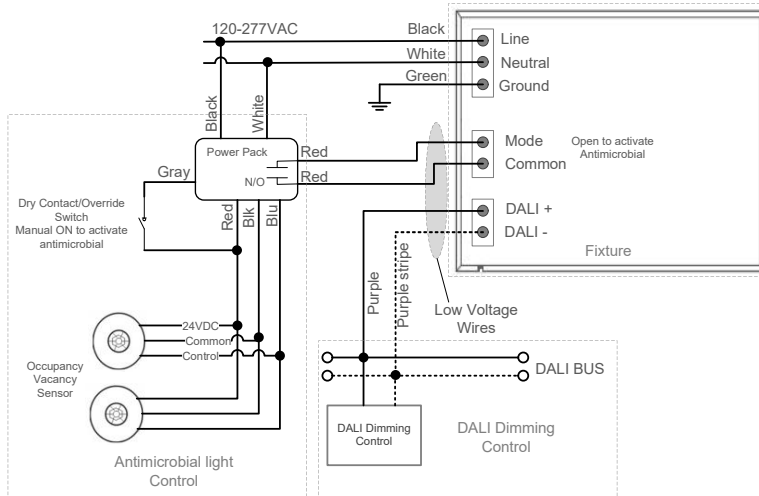
McWong
Powerpack: PSC-AC-100
Occupancy sensor:PSC-ID-CM-301

Leviton
Powerpack: OSP20-RD0
Occupancy sensor: OSC05-RMW

Legrand
Powerpack: BZ-200
Occupancy sensor: DT-300/DT-305

IR-Tec
Powerpack: PPU-300/301
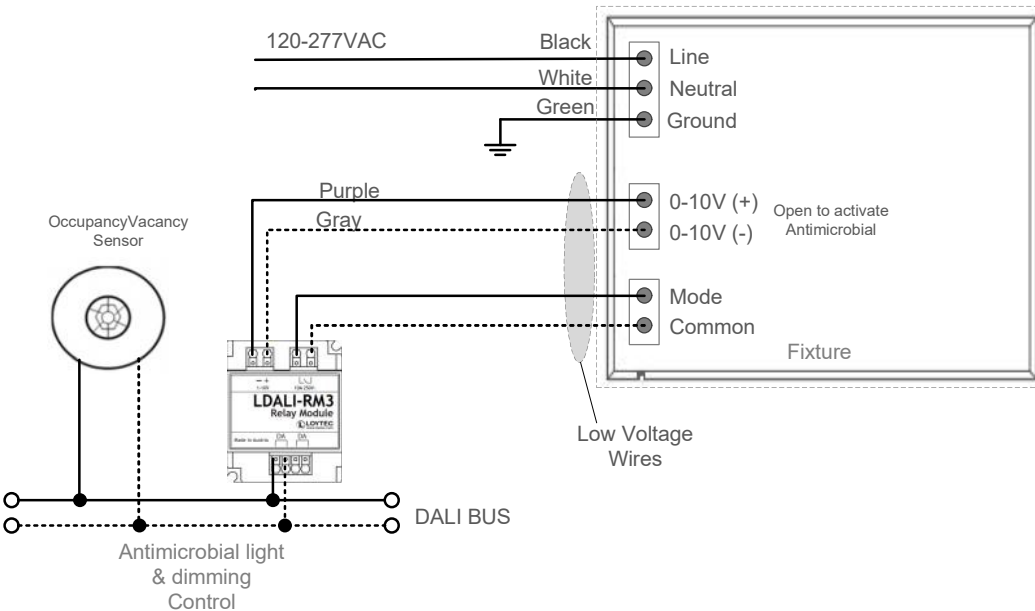Occupancy sensor: OS-361DT

McWong
Powerpack: PSC-AC-PP-100
Occupancy sensor:PSC-ID-CM-301

Leviton
Powerpack: OSP20-RD0
Occupancy sensor: OSC05-RMW

Legrand/Wattstopper
Powerpack: BZ-200
Occupancy sensor: DT-300/DT-305

IR-Tec
Powerpack: PPU-300/301
Occupancy sensor: OS-361DT

DALI Occupancy/Vacancy Sensor with DALI to 0-10V/Relay Module

Notes:
* Driver is 277VAC dimmable with appropriate dimmer (by others). All provided wiring diagrams show 120VAC wiring colors and method.
Please refer to 277VAC dimmer installation instructions for 277VAC wiring diagrams.
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DIMMING COMPATIBILITY:
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0-10V with Enlighted Sensor Control

Antimicrobial light Control

Fixture
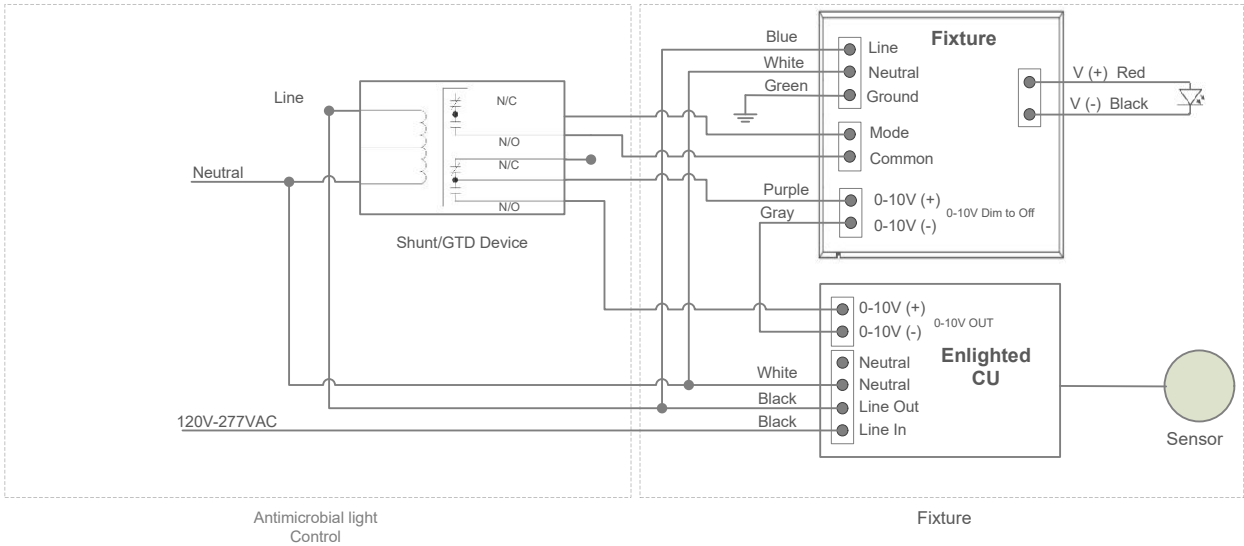
Delta Controls O3 Sensor Hub
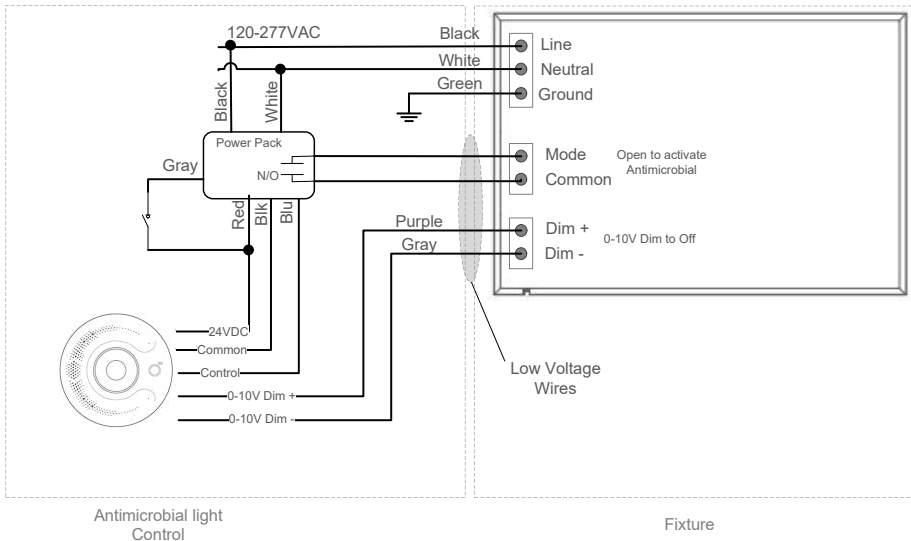
Antimicrobial light Control

Fixture

Notes:
* Driver is 277VAC dimmable with appropriate dimmer (by others). All provided wiring diagrams show 120VAC wiring colors and method. Please refer to 277VAC dimmer installation instructions for 277VAC wiring diagrams.
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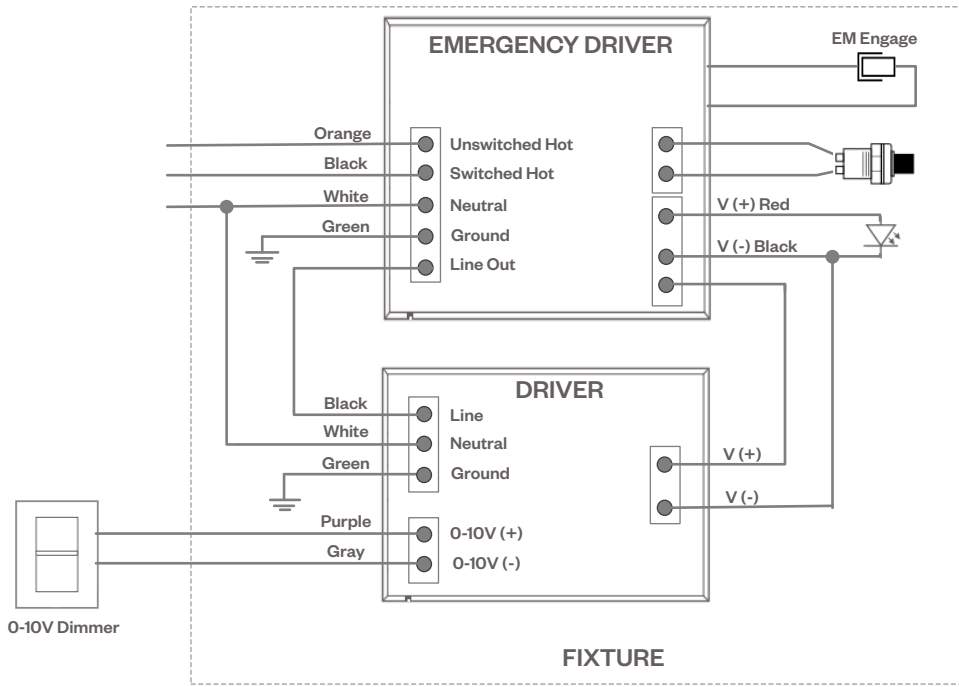**PROJECT:**   **TYPE:**

Emergency Fixture with Built-in Battery Pack (EMB) Wiring:
Note: EMB not available on lengths under 4'.