



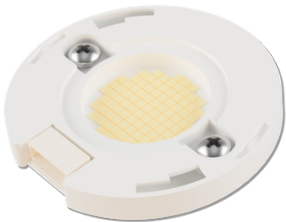
Tunable Color High Output ORB System - PRELIMINARY

Features

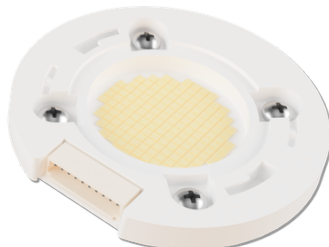
- > High output ORB systems available in LES23 or LES28, outputs up to 5000lm
- > Calibrated tunable color spectra features in a modular form factor
- > Select your LED module to achieve desired spectra mix, LES source size, and lumen output
- > LED module holder compatible with a wide selection of standard optics and reflectors
- > Flat and dome diffuser options available for smooth channel mixing
- > Control Protocols: DMX/RDM & Casambi BLE

Choose your Modular LED Array

Spectra : Tunable Color
LES : 23 & 28
Lumens : Up to 5000lm



LES23



LES28

High Output ORB System Includes Diffuser:

Shape : Dome



Complete your System with an APT-CV5-Vx-SQ LED Controller:





Table of Contents

High Output ORB System Order Codes	3
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Controller Information & Electrical Specifications	5
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LED Module Information & Mechanical Drawings

LES23	6
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LES28	7
-------	---

System Mechanical Specifications & Holder Operating Conditions	8
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How to Insert LES23 LoDA Into Holder	10
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How to Insert LES28 LoDA Into Holder	11
--------------------------------------	----

Wiring Diagram, Cable Information, & Control Protocol Electrical Specifications

DMX/RDM	12
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Wireless BLE	12
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Arkalumen Accessories	13
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Ecosystem Accessories	14
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High Output ORB System Order Codes - LES23

L504C-RGB2040

System Oder Code	LoDA	Holder	Diffuser	APT Controller	Control Protocol
Y504C2040-VA1-23-D2-4010	L504C-RGB2040	LES23	ARK-DF-SF2-DM23	APT-CV5-VA-SQ	DMX/RDM
Y504C2040-VWC1-EA- 23-D2-4010	L504C-RGB2040	LES23	ARK-DF-SF2-DM23	APT-CV5-VWC-SQ-EA	Casambi Embedded Antenna
Y504C2040-VWC1-WA-23-D2-4010	L504C-RGB2040	LES23	ARK-DF-SF2-DM23	APT-CV5-VWC-SQ-WA	Casambi Whip Antenna

L514C-RGB1840

System Oder Code	LoDA	Holder	Diffuser	APT Controller	Control Protocol
Y514C1840-VA1-23-D2-4010	L514C-RGB1840	LES23	ARK-DF-SF2-DM23	APT-CV5-VA-SQ	DMX/RDM
Y514C1840-VWC1-EA-23-D2-4010	L514C-RGB1840	LES23	ARK-DF-SF2-DM23	APT-CV5-VWC-SQ-EA	Casambi Embedded Antenna
Y514C1840-VWC1-WA-23-D2-4010	L514C-RGB1840	LES23	ARK-DF-SF2-DM23	APT-CV5-VWC-SQ-WA	Casambi Whip Antenna



High Output ORB System Order Codes - LES28

L505D-RGB2040

System Oder Code	LoDA	Holder	Diffuser	APT Controller	Control Protocol
Y505D2040-VA1-28-D2-4010	L505D-RGB2040	LES28	ARK-DF-SF2-DM28	APT-CV5-VA-SQ	DMX/RDM
Y505D2040-VWC1-EA-28-D2-4010	L505D-RGB2040	LES28	ARK-DF-SF2-DM28	APT-CV5-VWC-SQ-EA	Casambi Embedded Antenna
Y505D2040-VWC1-WA-28-D2-4010	L505D-RGB2040	LES28	ARK-DF-SF2-DM28	APT-CV5-VWC-SQ-WA	Casambi Whip Antenna

L515D-RGB1840

System Oder Code	LoDA	Holder	Diffuser	APT Controller	Control Protocol
Y515D1840-VA1-28-D2-4010	L515D-RGB1840	LES28	ARK-DF-SF2-DM28	APT-CV5-VA-SQ	DMX/RDM
Y515D1840-VWC1-EA-28-D2-4010	L515D-RGB1840	LES28	ARK-DF-SF2-DM28	APT-CV5-VWC-SQ-EA	Casambi Embedded Antenna
Y515D1840-VWC1-WA-28-D2-4010	L515D-RGB1840	LES28	ARK-DF-SF2-DM28	APT-CV5-VWC-SQ-WA	Casambi Whip Antenna



Controller Information

APT Controller	Technology	Number of Channels	Control Protocol	Antenna	Form Factor
APT-CV5-VA-SQ-xxxx	Tunable Color	5	DMX/RDM	n/a	Square
APT-CV5-VWC-SQ-EA-xxxx	Tunable Color	5	Casambi BLE	Embedded	Square
APT-CV5-VWC-SQ-WA-xxxx	Tunable Color	5	Casambi BLE	Whip	Square

**xxxx – Firmware code provided by Arkalumen*

Controller Electrical Specifications

Controller	Max Wattage [W]*	Min Channel Voltage [V]	Max Input Voltage [V]	Max Channel Current [mA]	Max Total Current [mA]
APT-CV5-VA-SQ-xxxx	100	12	60	3,760	4,000
APT-CV5-VWC-SQ-EA-xxxx	100	12	60	3,760	4,000
APT-CV5-VWC-SQ-WA-xxxx	100	12	60	3,760	4,000

**Note: Max Wattage is typically limited to the LED module populated in the APT controller*

LES23 - LoDA LED Module Information

LoDA	LEDs	Technology	CCT Range	LES	PCB Thickness
L504C-RGB2040	Nichia	Tunable Color - RGBWW	1800-6500K	23	1mm
L514C-RGB1840	Osram	Tunable Color - RGBWW	1800-6500K	23	1mm

Mechanical Diagrams

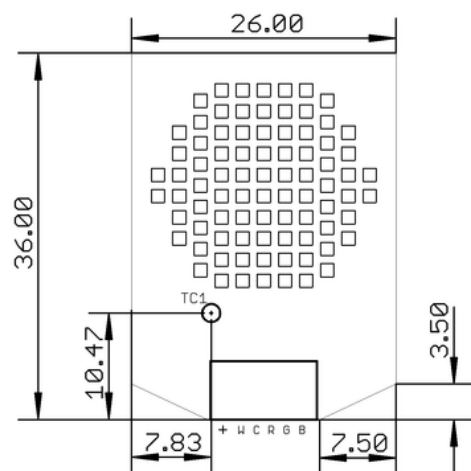


Figure 1 – L5xxC-RGBxxxxy Mechanical Drawing
Top View

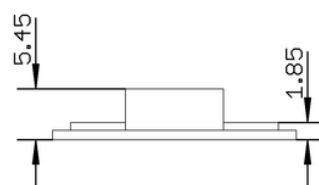


Figure 2 – L5xxC-RGBxxxxy Mechanical Drawing
Side View

LES28 - LoDA LED Module Information

LoDA	LEDs	Technology	CCT Range	LES	PCB Thickness
L505D-RGB2040	Nichia	Tunable Color - RGBWW	1800-6500K	28	1mm
L515D-RGB1840	Osram	Tunable Color - RGBWW	1800-6500K	28	1mm

Mechanical Diagrams

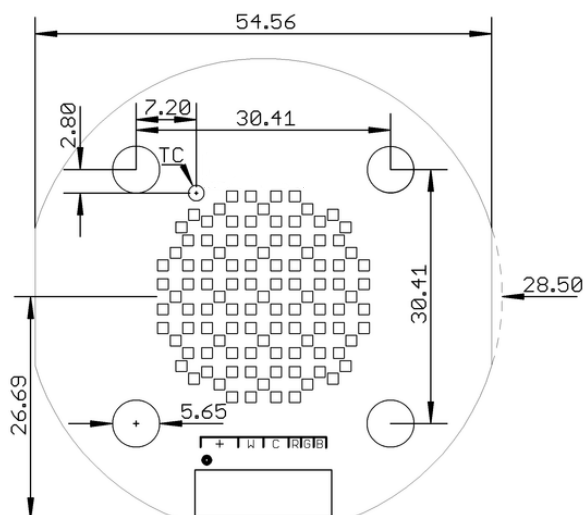


Figure 3 – L5xxD-RGBxxxxy Mechanical Drawing
Top View

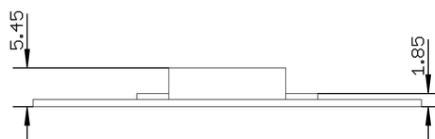


Figure 4 – L5xxD-RGBxxxxy Mechanical Drawing
Side View

System Mechanical Specification

LES23

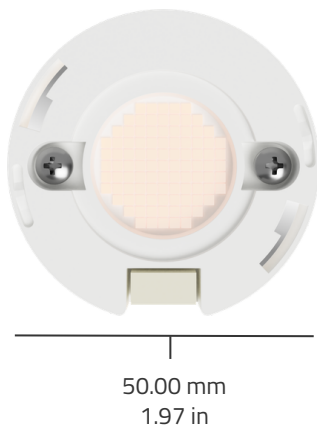


Figure 5 – LES23 High Output ORB



Fig 6 – LES23 Height with Dome Diffuser

LES28

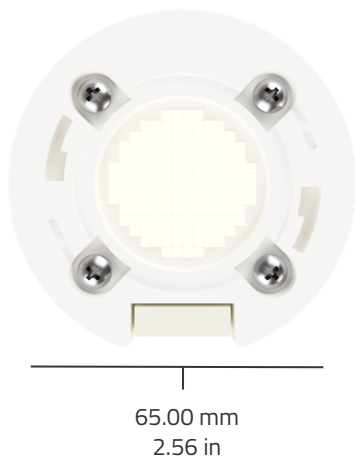


Figure 7 – LES28 High Output ORB



Fig 8 – LES28 Height with Dome Diffuser



Holder Specifications

Specifications	
Material	Plastic
RTI Elec	125°C

LES23 Holder

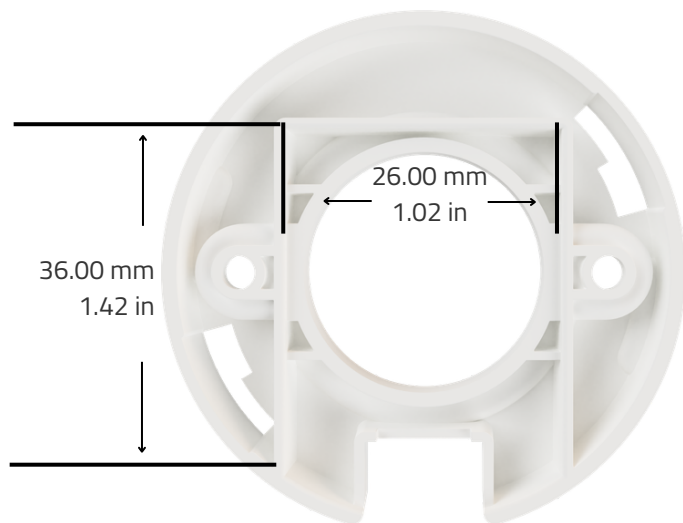
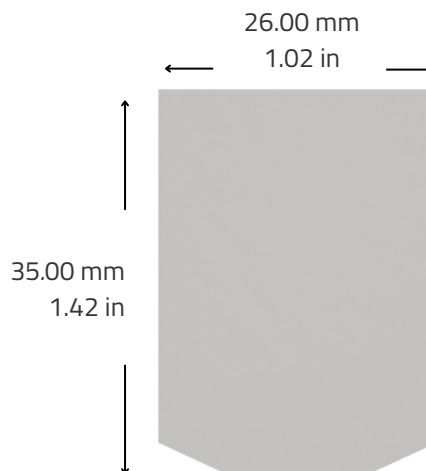


Figure 9 – LES23 High Output ORB Holder Bottom View



All L5xxC-xxxxxx LoDAs have the same dimension and are specifically designed to integrate into LES23 High Output ORB holders

Figure 10 – Bottom View of LoDA LED Module

How to Insert LES23 LoDA Into Holder

Step 1



*Insert LoDA into the back of the ORB.
Once the LoDA is aligned with the bottom of the ORB, push down into a flush position*

Figure 11

Step 2



LoDA properly inserted into ORB

Figure 12

LES28 Holder

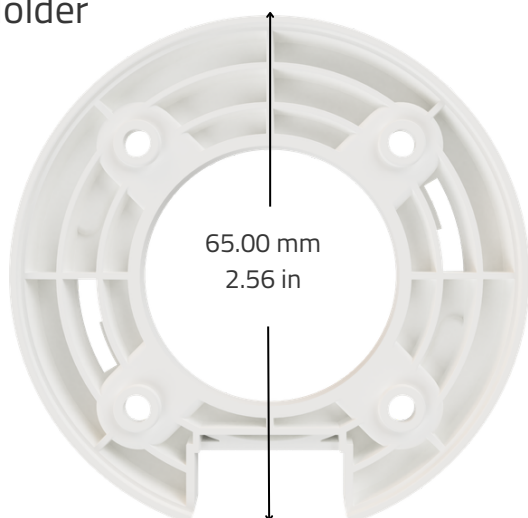
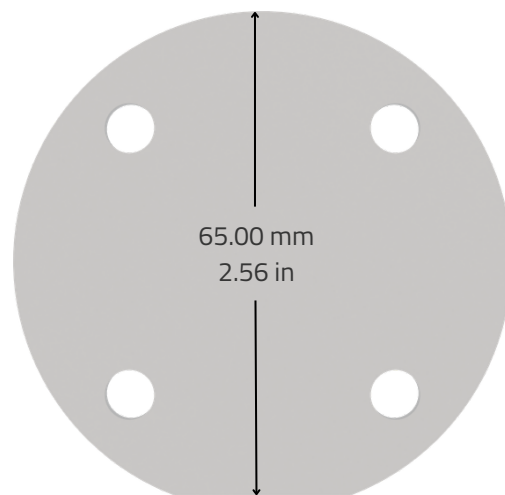


Figure 13– LES28 High Output ORB Holder Bottom View

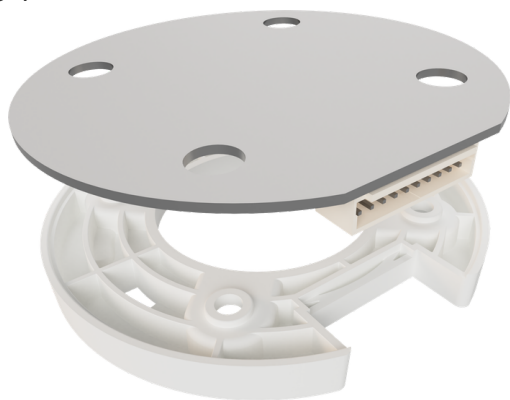


All L5xxD-xxxxxx LoDAs have the same dimension and are specifically designed to integrate into LES28 High Output ORB holders

Figure 14 – Bottom View of LoDA LED Module

How to Insert LES28 LoDA Into Holder

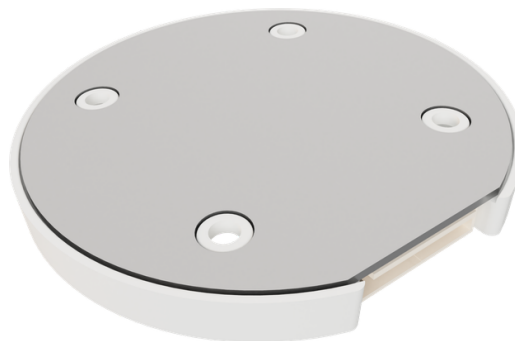
Step 1



Insert LoDA into the back of the ORB.
Once the LoDA is aligned with the bottom of the ORB, push down into a flush position

Figure 15

Step 2

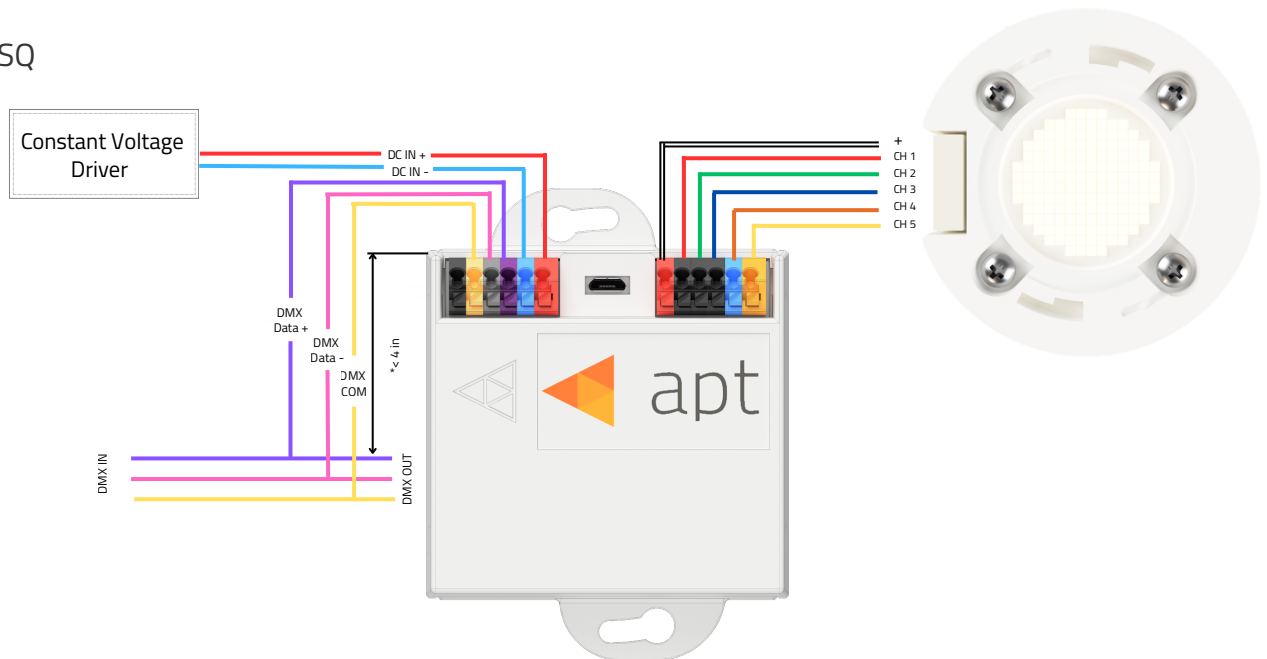


LoDA properly inserted into ORB

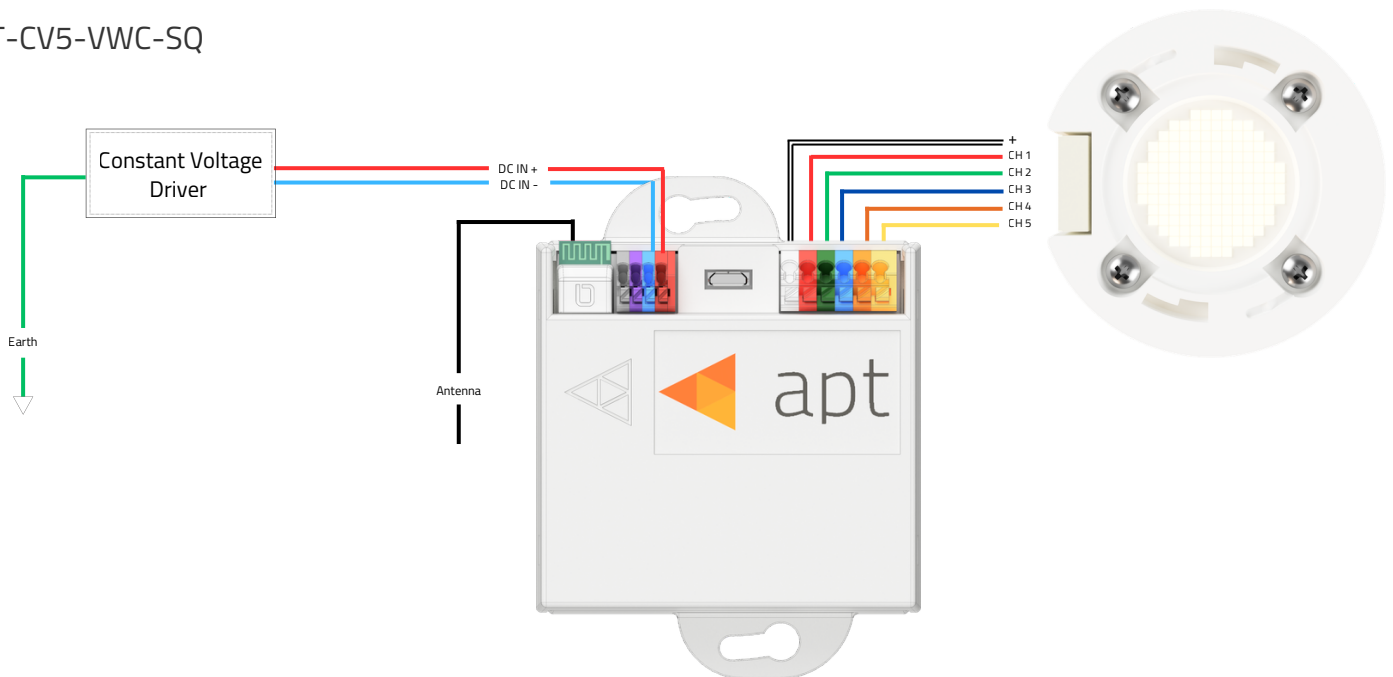
Figure 16

Wiring Diagrams

APT-CV5-VA-SQ



APT-CV5-VWC-SQ



Arkalumen Accessories

Diffuser Elements

Arkalumen Part Number	Material	Shape	Thickness [mm]	Holder	Level of Diffusion
ARK-DF-SF2-DM23	Silicone	Dome	0.5	LES23	2
ARK-DF-SF2-DM28	Silicone	Dome	0.5	LES28	2



ARK-DF-DM-23



ARK-DF-DM-28

Cables

Arkalumen Part Number	Compatibility	Compatible Controller	Number of Wires	Wire Colors	Length [mm]
ARK-C1-6C-30	LES23 - RGBWW	APT-CV5-Vx-SQ	6	White, Red, Green, Blue, Orange, Yellow	300
ARK-C1-6D-30	LES28 - RGBWW	APT-CV5-Vx-SQ	6	White, Red, Green, Blue, Orange, Yellow	300

Molex Part Number - 0874390600



Ecosystem Accessories

TIR Optic & Reflectors

Arkalumen High Output ORB Systems are compatible with a wide range of TIR optics and reflectors. Please contact Arkalumen to confirm the compatibility of your selection.

Approved Drivers

Arkalumen High Output ORBs are compatible with a wide range of isolated 24V constant voltage output drivers. Please contact Arkalumen to confirm the compatibility of your selection.

Heat Sink

Arkalumen LED modules are designed to be thermally managed to maintain a Tc point temperature equal to or less than the maximum specified temperature. When selecting materials for thermal management, consider using a thermal interface material and a heat sink. It is recommended to source products with low thermal resistance (C/W). Heat sinks may be specified with a power limit. Look for heat sinks with a power limit at least as high as the maximum power of the selected LED module. Testing within likely applications of the finished assembly is necessary to ensure that the Tc point temperature limit is not being exceeded.

Screws

Socket head or rounded button head hex drive screws are recommended. Please note that countersunk screws and thread forming or rolling screws are not allowed.

Metric: M3 x 0.5mm thread, 20mm long. Imperial: #4-40 UNC, 0.5in. Length should be adjusted to the heat sink.

Torque: 0.22Nm

Head diameter for the screw: 6mm

Max head height: 2.52mm



Contact Us

For any further support please contact Arkalumen at support@arkalumen.com or toll free at 1.877.865.5533

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