

Tunable White High Output ORB System - PRELIMINARY

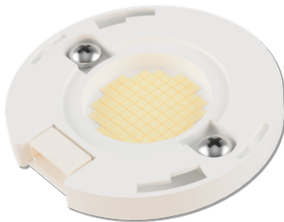
Features

- > High output ORB systems available in LES23, outputs up to 4500lm
- > Calibrated tunable white 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: 0-10V, Intesity Level, DMX/RDM & Casambi BLE



Choose your Modular LED Array

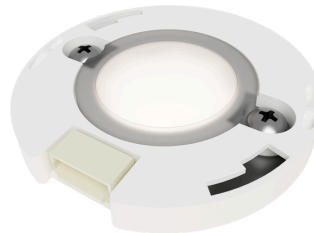
Spectra : Tunable White
LES : 23
Lumens : 4500lm



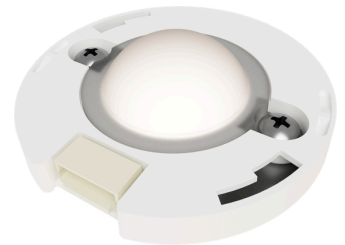
LES23

Choose your Diffuser:

Shape : Dome or Flat



Flat Diffuser



Dome Diffuser

Choose your LED Controller to Complete your System:





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High Output ORB System Order Codes

L304C-183065

System Order Code	LoDA	Holder	Diffuser*	APT Controller	Control Protocol
Y304C183065-CC1-23-D2-4010TW	L304C-183065	LES23	ARK-DF-SF2-DM23	APT-CC3-VS-M1-xxxxTW3	Tunable White
Y304C183065-CC1-23-F2-4010TW	L304C-183065	LES23	ARK-DF-SF2-FL23	APT-CC3-VS-M1-xxxxTW3	Tunable White
Y304C183065-CC1-23-D2-4010DW	L304C-183065	LES23	ARK-DF-SF2-DM23	APT-CC3-VS-M1-xxxxDW3	Dim-to-Warm
Y304C183065-CC1-23-F2-4010DW	L304C-183065	LES23	ARK-DF-SF2-FL23	APT-CC3-VS-M1-xxxxDW3	Dim-to-Warm
Y304C183065-VA1-23-D2-4010	L304C-183065	LES23	ARK-DF-SF2-DM23	APT-CV5-VA-SQ	DMX/RDM
Y304C183065-VA1-23-F2-4010	L304C-183065	LES23	ARK-DF-SF2-FL23	APT-CV5-VA-SQ	DMX/RDM
Y304C183065-VWC1-EA-23-D2-4010	L304C-183065	LES23	ARK-DF-SF2-DM23	APT-CV5-VWC-SQ-EA	Casambi Embedded Antenna
Y304C183065-VWC1-EA-23-F2-4010	L304C-183065	LES23	ARK-DF-SF2-FL23	APT-CV5-VWC-SQ-EA	Casambi Embedded Antenna
Y304C183065-VWC1-WA-23-D2-4010	L304C-183065	LES23	ARK-DF-SF2-DM23	APT-CV5-VWC-SQ-WA	Casambi Whip Antenna
Y304C183065-VWC1-WA-23-F2-4010	L304C-183065	LES23	ARK-DF-SF2-FL23	APT-CV5-VWC-SQ-WA	Casambi Whip Antenna

*Dome & Flat Diffusers Available - ARK-DF-SF2-DM23 (Dome), ARK-DF-SF2-FL23 (Flat)



Controller Information

APT Controller	Technology	Number of Channels	Control Protocol	Antenna	Form Factor
APT-CC3-VS-M1-xxxxTW3	Tunable White	3	0-10V	-	Linear
APT-CC3-VS-M1-xxxxDW3	Dim-to-Warm	3	Intensity Level	-	Linear
APT-CV3-VA-SQ	Tunable White	3	DMX/RDM	-	Square
APT-CV3-VWC-SQ-EA	Tunable White	3	Casambi BLE	Embedded	Square
APT-CV3-VWC-SQ-WA	Tunable White	3	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-CC3-VS-M1-xxxxTW3	100	12**	55	4,160	4,160
APT-CC3-VS-M1-xxxxDW3	100	12**	55	4,160	4,160
APT-CV3-VA-SQ	100	12	60	3,760	4,000
APT-CV3-VWC-SQ-EA	100	12	60	3,760	4,000
APT-CV3-VWC-SQ-WA	100	12	60	3,760	4,000

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

**APT-CC3-VS-M1 min channel voltage [V] is subject to driver compatibility

LES23 - LoDA LED Module Information

LoDA	LEDs	Technology	CCT Range	LES	PCB Thickness
L304C-183065	Bridgelux	Tunable White	1800-6500K	23	1mm

Mechanical Diagrams

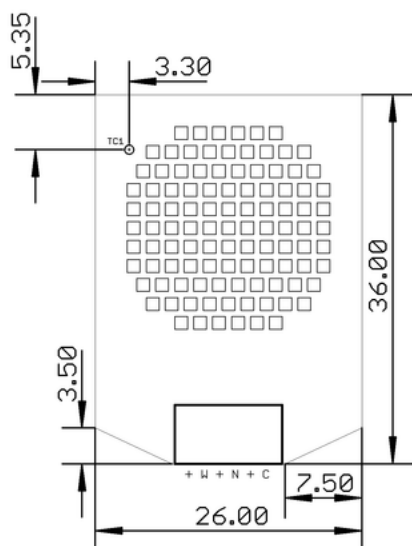


Figure 1 – L3xxC-xyyyzz Mechanical Drawing
Top View

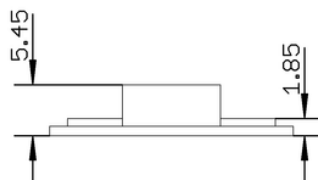


Figure 2 – L3xxC-xyyyzz Mechanical Drawing
Side View

Mechanical Specifications

LES23

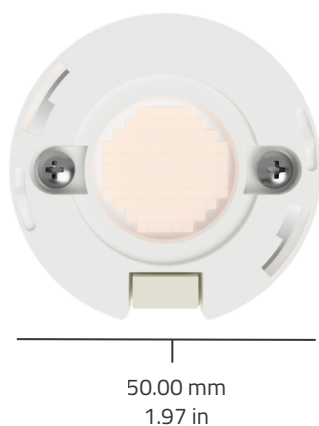


Figure 3 – LES23 High Output ORB



Fig 4 – LES23 Height with Flat Diffuser



Fig 5 – LES23 Height with Dome Diffuser

Holder Specifications

Encasement Specifications	
Material	Plastic
RTI Elec	125°C

LES23

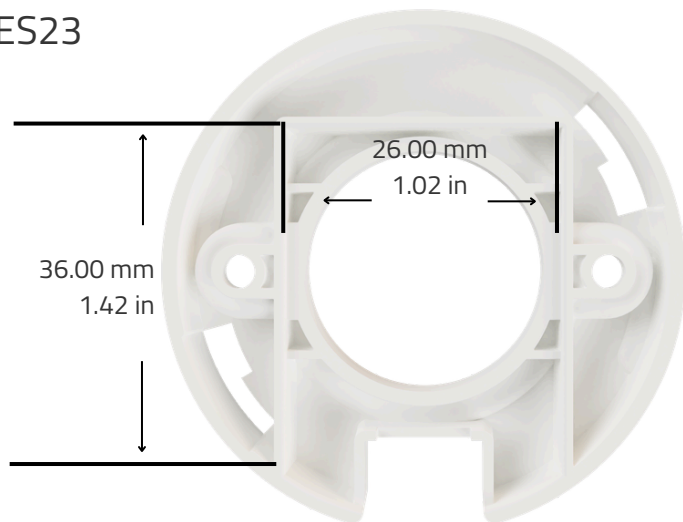
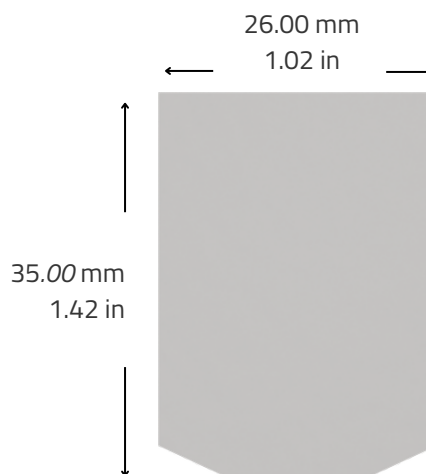


Figure 6 – LES23 High Output ORB Holder Bottom View



All L3xxC-xxxxxx LoDAs have the same dimension and are specifically designed to integrate into LES23 High Output ORB holders

Figure 7 – 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 8

Step 2



LoDA properly inserted into ORB

Figure 9

Wiring Diagrams

APT-CC3-VS-M1-xxxxTW3



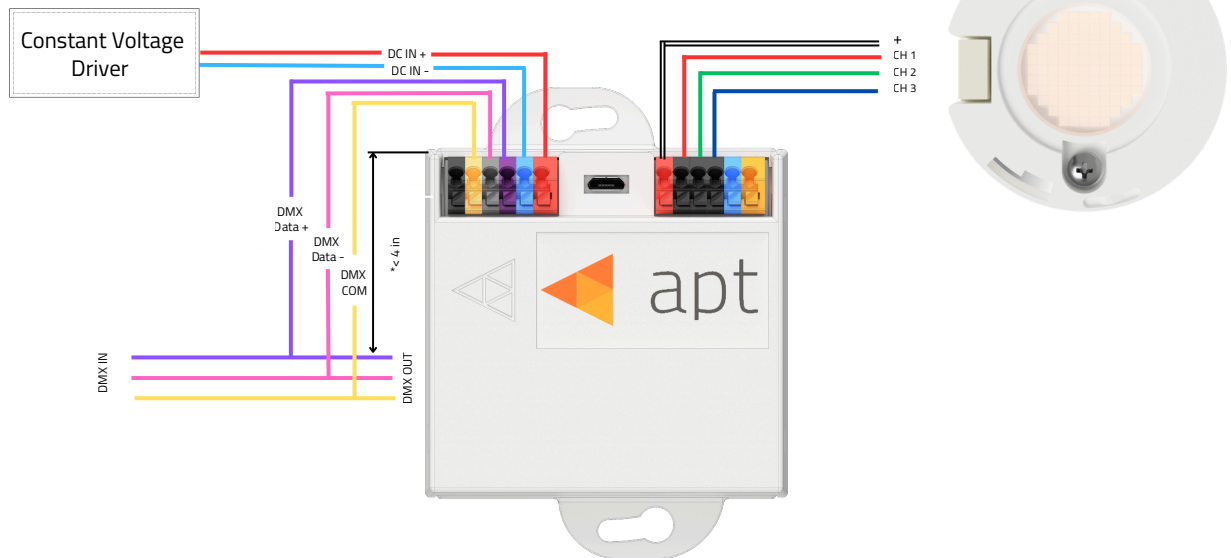
APT-CC3-VS-M1-xxxxDW3



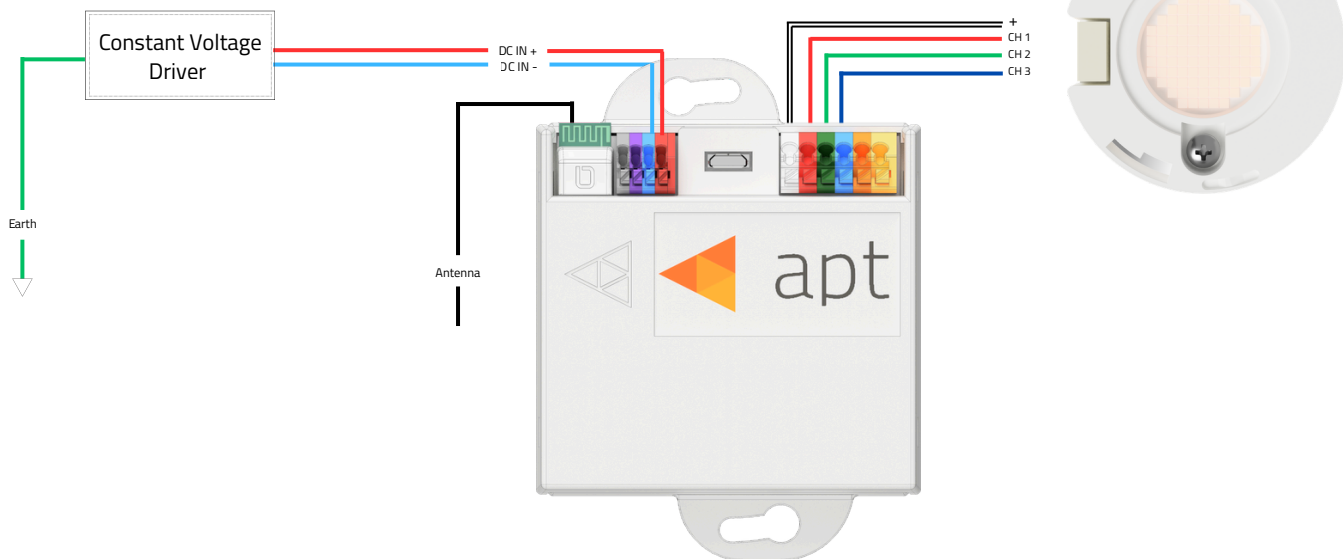
Note: The output CCT range can be set using the APT Programmer

Wiring Diagrams

APT-CV3-VA-SQ



APT-CV3-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-FL23	Silicone	Flat	0.5	LES23	2



ARK-DF-DM-23



ARK-DF-FL-23

Cables

Arkalumen Part Number	Compatibility	Compatible Controller	Number of Wires	Wire Colors	Length [mm]
ARK-C1-4C-30	LES23 - WWW	APT-CC3-VS-M1-xxxxyyz APT-CV3-Vx-SQ	4	White, Red, Green, Blue	300

Molex Part Number - 0874390600



Ecosystem Accessories

TIR Optic & Reflectors

Arkalumen 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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