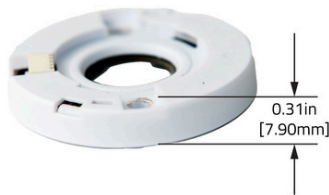
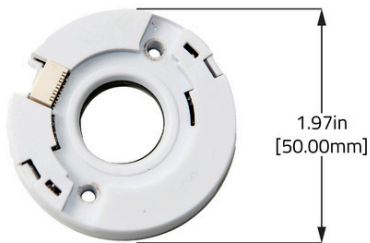


ORB-CC-VS - A Simple and Beautiful Round Light Source

Features

- > Converts constant current driver into multi-channel constant current driver with up to 3 controlled output channels
- > Integrate intelligent tunable spectra control features into a modular Zhaga based form factor
- > Select from different tunable white arrays to achieve desired spectra mix, LES source size, and lumen output
- > Compatible with a wide selection of TIR optics and reflectors and easy integration with Arkalumen series of diffuser elements
- > APT Programmer enables configuration changes including CCT range, CCT mapping and control mode selection
- > Control Modes: 0-10V tunable white, dim-to-warm, programmable selectable white, DIP switch controlled selectable white

Designed for Fit and Performance



Zhaga Standard Dimensions ■ Integrated Optic/Diffuser Holder
Ultra Low Profile → High Optical Efficiency

Choose your LED Module

Spectra : Tunable White

LES: 7 - 18mm

Drop-in LED Module

Auto-Calibration



Tunable White





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ORB Order Codes

Order Code*	Technology	Number of Channels	Control Mode
ORB-CC-VS-xxxxTW	Tunable White	Up to 3	0-10V
ORB-CC-VS-xxxxDW	Dim-to-Warm	Up to 3	Intensity Level
ORB-CC-VS-xxxxSW	Selectable White	Up to 3	Programmable or DIP Switch

*xxxx – Firmware code provided by Arkalumen

ORB Electrical Specifications

Order Code	Max Wattage [W]*	Min Input Voltage [V]	Max Input Voltage [V]	Max Channel Current [mA]	Min Total Current [mA]	Max Total Current [mA]
ORB-CC-VS-xxxxYY	48	12	24	2000	10	2000

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

Mechanical Specifications

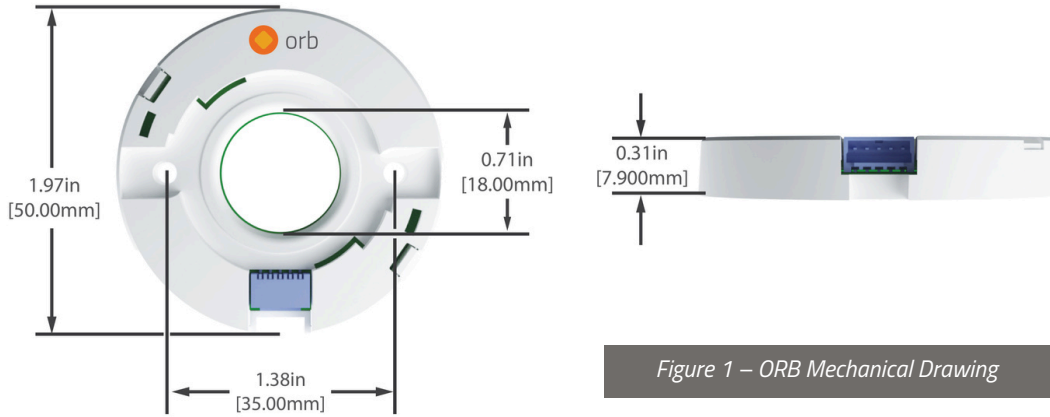


Figure 1 – ORB Mechanical Drawing

Encasement Specifications	
Material	Plastic
RTI Elec	130°C

Operating Conditions

Temperature Limits	
Min Ambient Temperature, Ta	-40°C
Max Ambient Temperature, Ta	50°C

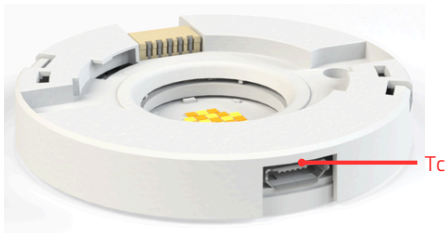


Fig. 2 - Tc is measured on a metal sleeve of micro-USB programming port in location specified above



Fig. 3 - To measure Tc, insert thermal probe between micro-USB and top encasement as shown

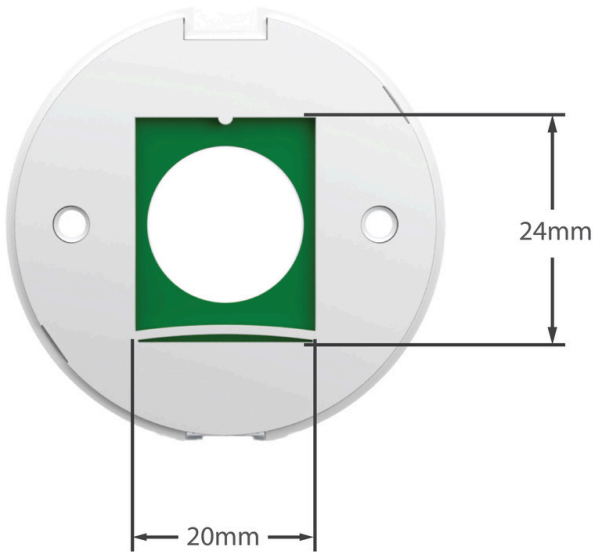
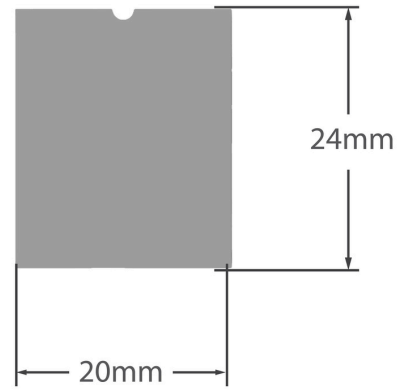


Figure 4 – ORB Bottom View

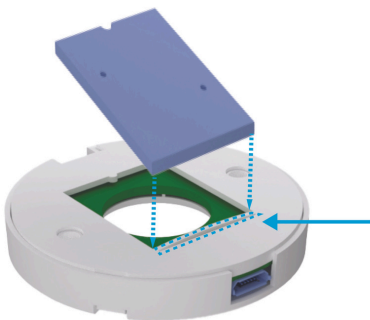


All LxxxA LoDAs have the same dimension and are specifically designed to integrate into all ORB line of products

Figure 5 – Bottom View of LoDA LED Module

How to Insert LoDA Into ORB

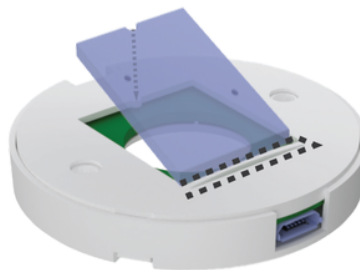
Step 1



Insert LoDA into the back of the ORB at a 45° angle, toward the spring side

Figure 6

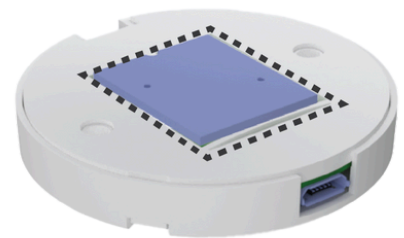
Step 2



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

Figure 7

Step 3

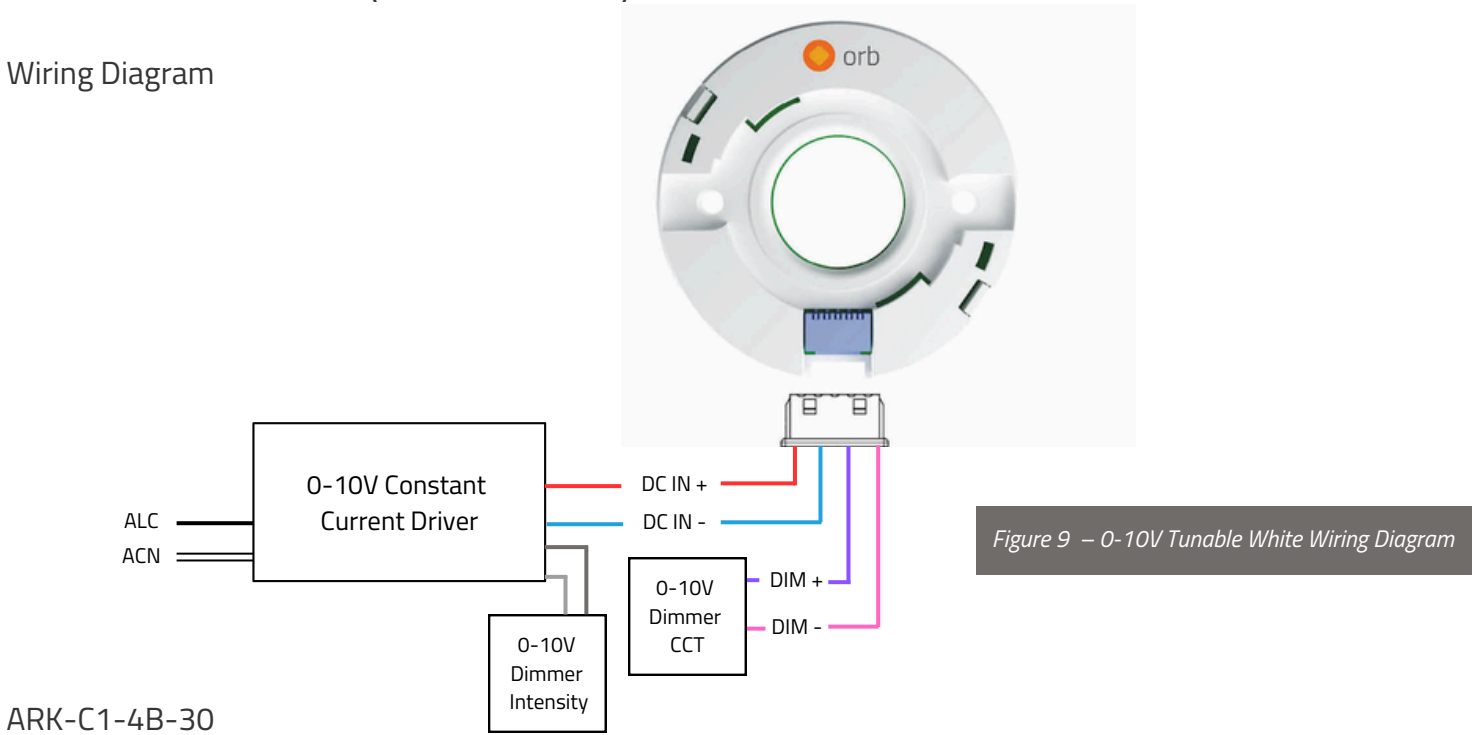


LoDA properly inserted into ORB

Figure 8

Control Mode: 0-10V (Tunable White)

Wiring Diagram



ARK-C1-4B-30



Please contact Arkalumen if you would like a different length of cable

Figure 10 – 0-10V Tunable White Cable Assembly

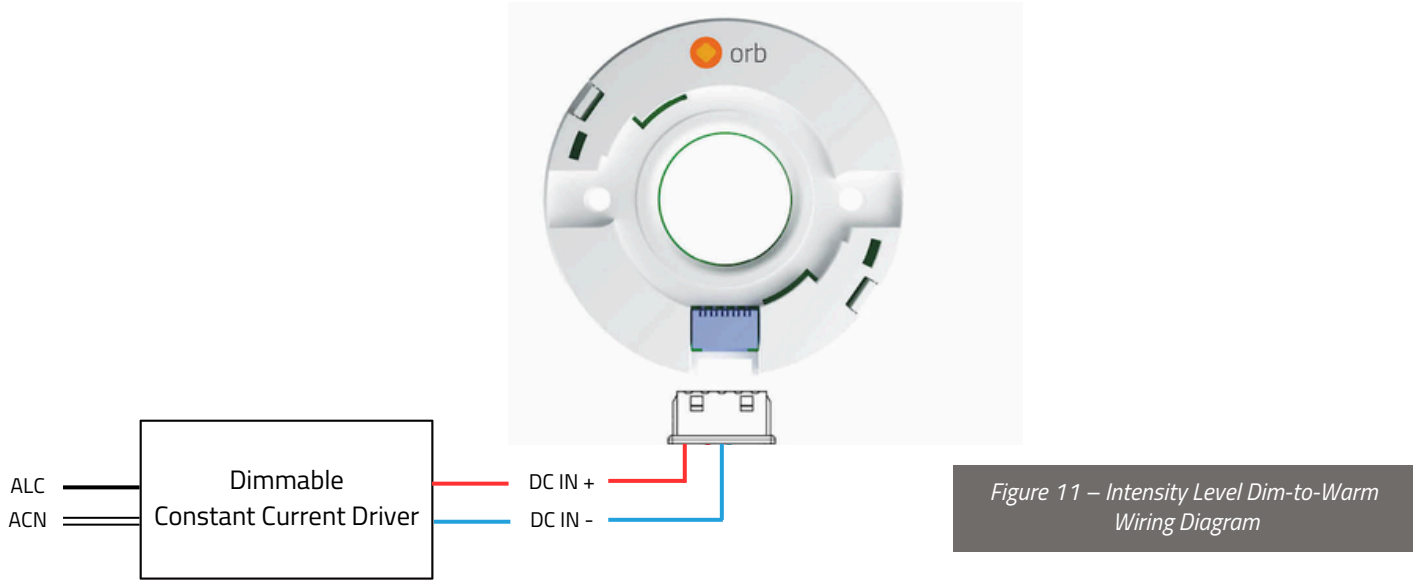
Function	Wire Color
DC IN +	Red
DC IN -	Blue
DIM +	Purple
DIM -	Pink

Electrical Specifications

Port	Voltage [V]		Current [uA]	
	Min	Max	Min	Max
DIM +	0	20	98	104
DIM -	0	12	0	300

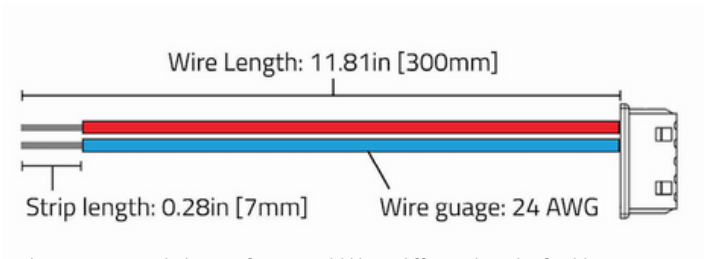
Control Mode: Intensity Level (Dim-to-Warm)

Wiring Diagram



Constant current driver intensity control could be 0-10V or phase dimming. Driver compatibility testing is required.

ARK-C1-5A-30



Please contact Arkalumen if you would like a different length of cable

Function	Wire Color
DC IN +	Red
DC IN -	Blue

Figure 12 – Intensity Level Dim-to-Warm Cable Assembly

Control Mode: DIP Switch (Selectable White)

Wiring Diagram

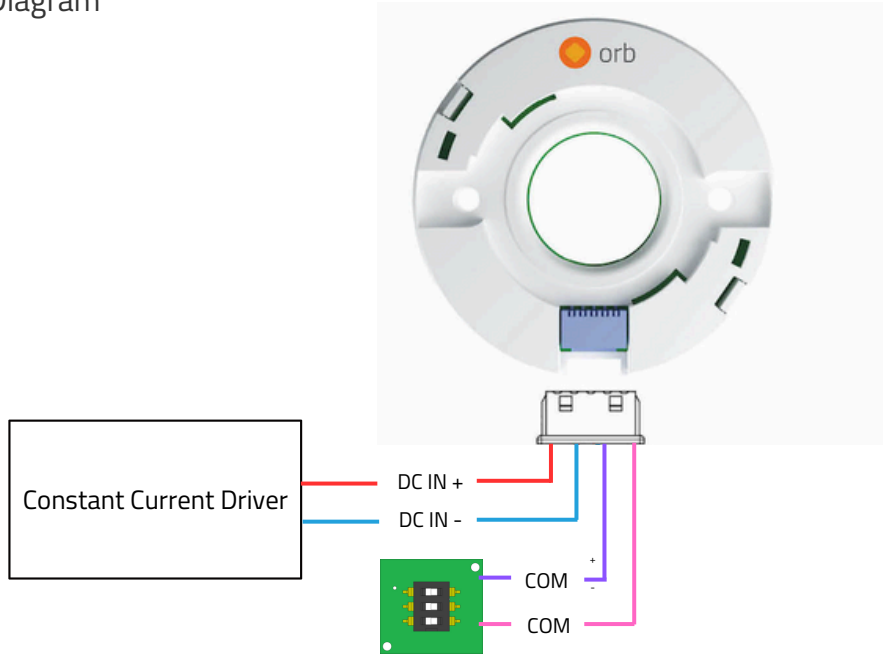


Figure 13 – DIP Switch Selectable White Wiring Diagram

Constant current driver intensity control could be 0-10V or phase dimming. Driver compatibility testing is required.

ARK-C1-4B-30



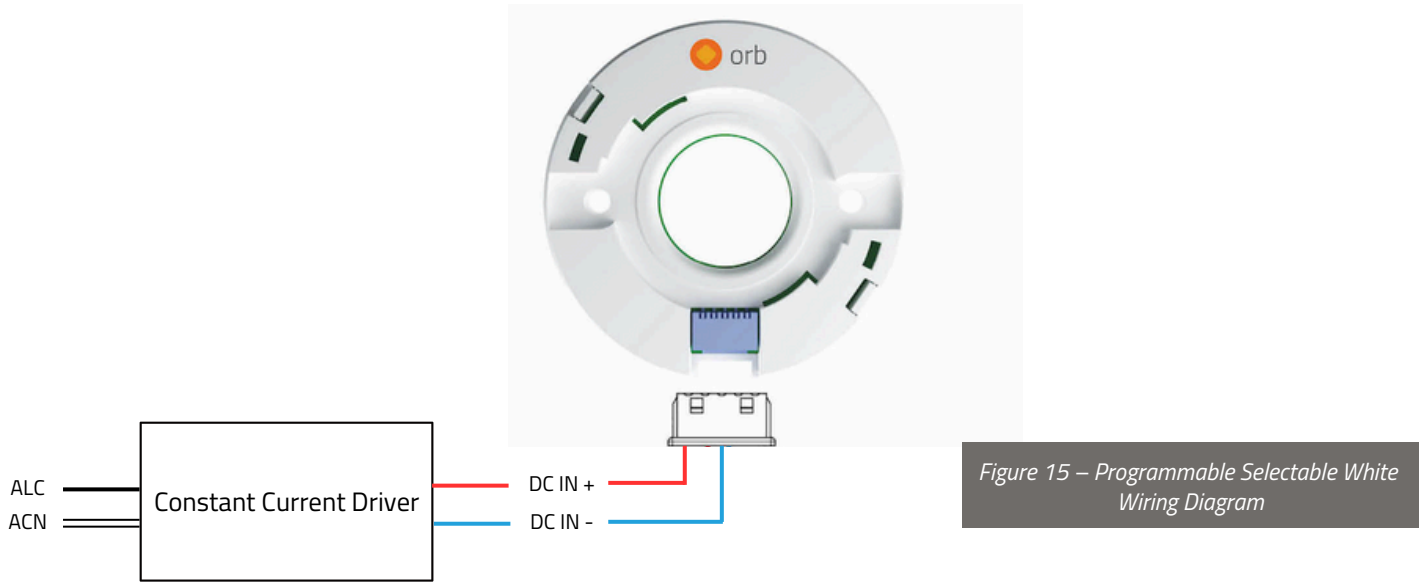
Please contact Arkalumen if you would like a different length of cable

Function	Wire Color
DC IN +	Red
DC IN -	Blue
COM	Purple
COM	Pink

Figure 14 – DIP Switch Selectable White Cable Assembly

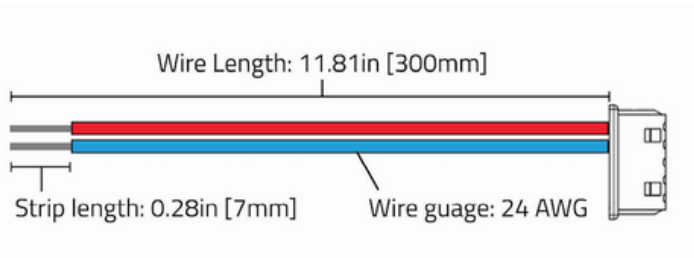
Control Mode: Programmable (Selectable White)

Wiring Diagram



Constant current driver intensity control could be 0-10V or phase dimming. Driver compatibility testing is required.

ARK-C1-5A-30



Please contact Arkalumen if you would like a different length of cable

Figure 16– Programmable Selectable White Cable Assembly

Function	Wire Color
DC IN +	Red
DC IN -	Blue



APT Programmer

Arkalumen's ORB controllers are customizable using our APT Programmer, which allows users to easily configure the controller for your applications. To configure, you will need an ORB controller, an APT Programmer hardware unit and the latest version of the APT Programmer user interface.

APT Programmer Hardware:

To request an APT Programmer hardware unit, please contact support@arkalumen.com and a unit can be sent to you.

APT Programmer Software:

To download the latest APT Programmer user interface, please request a download link via the Arkalumen website www.arkalumen.com/apt-programmer/. You will be prompted to add in your information and a link will be sent to you via email with the latest version of the software. If you do not receive the email, please ensure to check your spam folder.

Programable Features

Order Code	Technology	LoDA Selection	CCT Range	CCT Level	Linear or Logarithmic Mapping	0-10V Trim Adjust	Dip Switch Usage
	Tunable White	✓	✓		✓	✓	
ORB-CC-VS-xxxxYY	Dim-to-Warm	✓	✓		✓		
	Selectable White	✓		✓			✓

Arkalumen Accessories

Diffuser Elements

Arkalumen Part Number	Material	Shape	Thickness [mm]	Level of Diffusion
ARK-DF-SF2	Silicone	Flat	0.5	2
ARK-DF-SF4	Silicone	Flat	0.5	4
ARK-DF-SF6	Silicone	Flat	1.0	6
ARK-DF-SF8	Silicone	Flat	1.0	8



ARK-DF-SF2



ARK-DF-SF4



ARK-DF-SF6



ARK-DF-SF8

Inner Reflectors

Arkalumen Part Number	LES	Material
ARK-IR-PL-LES9	9	Plastic
ARK-IR-PL-LES13	13	Plastic
ARK-IR-ST-LES18	18	Steel

Reflector Holders

Arkalumen Part Number	Compatibility	Material
ARK-RH-SA	LES9 & LES13	Plastic
ARK-RH-LA	LES18	Plastic



Arkalumen Accessories

Cables

Arkalumen Part Number	Compatibility	Number of Wires	Wire Colors	Length [mm]
ARK-C1-4B-30	ORB-CC-VS-xxxxTW & ORB-CC-VS-xxxxSW (DIP Switch)	4	Red, Blue, Purple, Pink	300
ARK-C1-2A-30	ORB-CC-VS-xxxxDW & ORB-CC-VS-xxxxSW (Programmable)	2	Red, Blue	300

Molex Part Number 874390500

Thermal Interface Material

Arkalumen Part Number	Compatibility	Dimensions [mm]	Material
ARK-TM-PC1-1818	ORB-CC-VS-xxxxYY	18x18	Phase Changing Material



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 ORB Systems are compatible with a range of isolated constant current 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: 0.37Nm

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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