



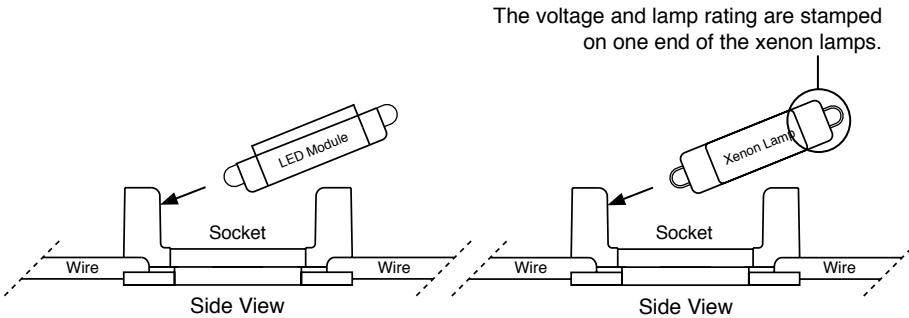
TOKISTAR LIGHTING INSTRUCTION MANUAL

Fixture Type _____ - _____ - _____

Advantage AVO Series

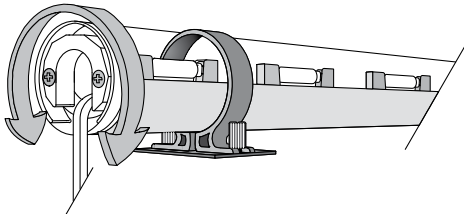
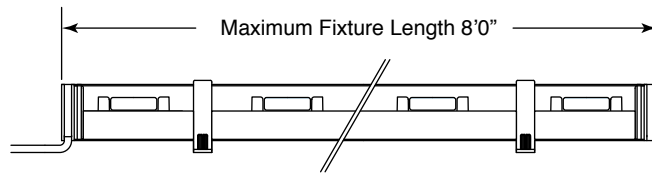
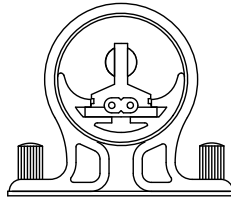
General Description

Tokistar's Advantage AVO Series is a 24 VAC lighting system using LED modules or rigid-loop xenon lamps. LEDs are 0.72 watts. Xenon lamps are available at 3 watts and 5 watts. Xenon lamps have the voltage and rating stamped on the glass at one end. Fixtures are labeled with wattage and operating voltage. AVO Series fixtures are manufactured to length and supplied with a 4 ft. lead. The maximum length for an individual fixture is 8 ft.



AVO - 3 - X5

Socket Spacing		Light Source	
Code	Inches (mm)	Code	Style
3	3.0" (75 mm)	X3	3 Watt Xenon
4	4.0" (100 mm)	X5	5 Watt Xenon
6	6.0" (150 mm)	LWW	0.72 Watt LED
		LIW	0.72 Watt LED



The circular design of AVO allows you to rotate the fixture and precisely focus light in the proper direction.

! PRECAUTIONS

1. Read all instructions completely before beginning installation.
2. Turn off electricity before beginning installation.
3. All wiring is to be performed by a qualified electrician.
4. Installation must comply with the National Electrical Code, and all applicable codes.
5. Turn main supply to transformer on only after all connections are made and tested.
6. Use only transformers provided by Tokistar with the system.

TOKISTAR LIGHTING

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Mounting Fixtures

AVO fixtures are shipped fully assembled and ready to be installed.

Step 1:

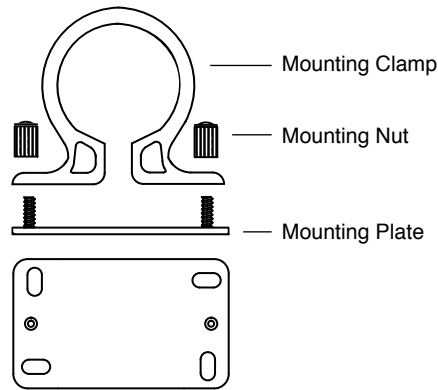
Secure the stainless steel mounting bracket to the desired surface. The mounting plate has four holes to accept screws. For secure mounting, use two screws in opposing corners. The mounting plate needs to be firmly attached to support the weight of the fixture

Step 2:

Place the mounting clamp on the clear polycarbonate tube guard and set the assembly on the threaded studs of the mounting plate. Secure the assembly with the mounting nuts provided.

Mounting Bracket (Part# AVO-BKT)

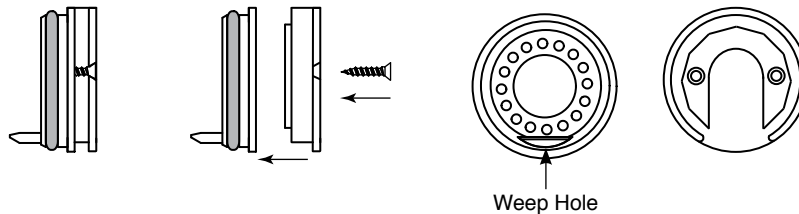
Two brackets are required for fixtures up to 5 feet in length. A third bracket is required for fixtures up to 8 feet long.



Vertical Mounting

If mounting the tube assembly in a vertical position the feed wire must be at the bottom of the tube.

Live End Cap Assembly (Part# AVO-ECL)

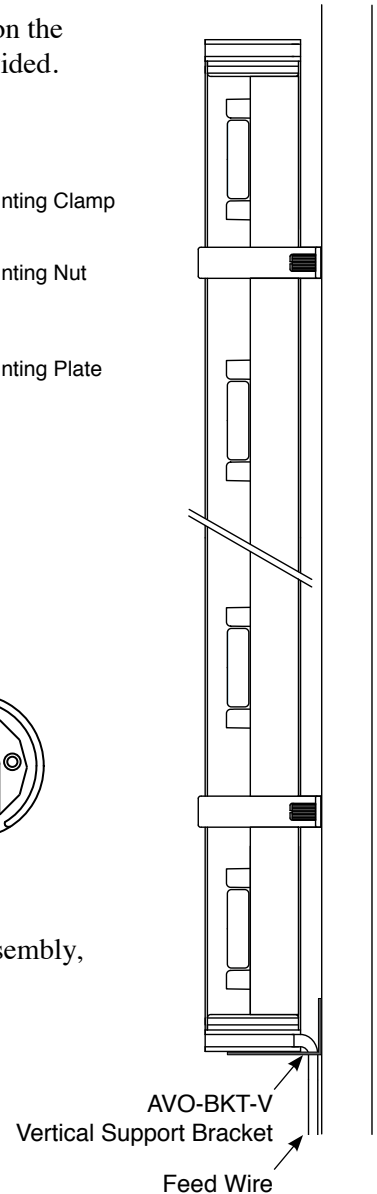
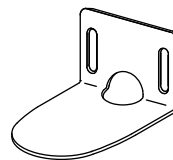


Rotating the Tube Guard

If you need to rotate the tube guard, remove the two screws from the Live End Cap Assembly, position the weep hole downward, reassemble the cap and replace the screws.

Vertical Support Bracket (Part# AVO-BKT-V)

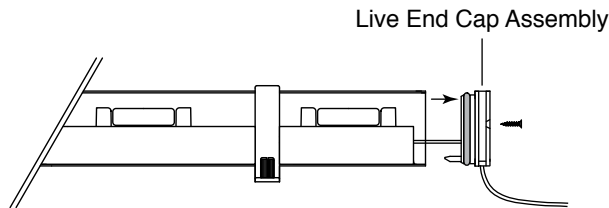
When an AVO fixture is positioned vertically, a support bracket is required for the lower end of each run.



⚠ PRECAUTIONS

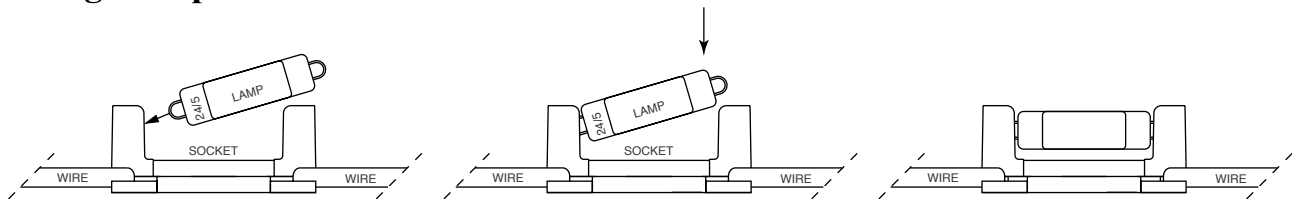
1. If you rotate the tube assembly, the weep hole must always face downward, to allow any water entering the fixture to drain out.
2. If mounting the tube assembly in a vertical position the feed wire must be at the bottom of the tube.
3. Each feed end of an AVO fixture is provided with a gasketed end cap. This cap is adjustable to point the feed wire in the proper direction to prevent the entry of water.

Lamp Replacement



1. Remove the two screws from the Live End Cap Assembly. Gently twist and remove the assembly from the tube guard.
2. Slide the aluminum reflector and the Advantage fixture from the tube guard for easy access.
2. Remove lamps from sockets by pulling directly out (Do Not Twist).
3. Replace lamps only with the same or lower wattage lamp.
4. Slide the aluminum reflector and fixture back into the tube guard.
5. Re-insert Live End Cap Assembly and secure with screws.

Installing Lamps



1. Push Lamps into one side of a socket at an angle.
2. Push other side of the Lamps straight down. Do Not Twist.

PRECAUTIONS.

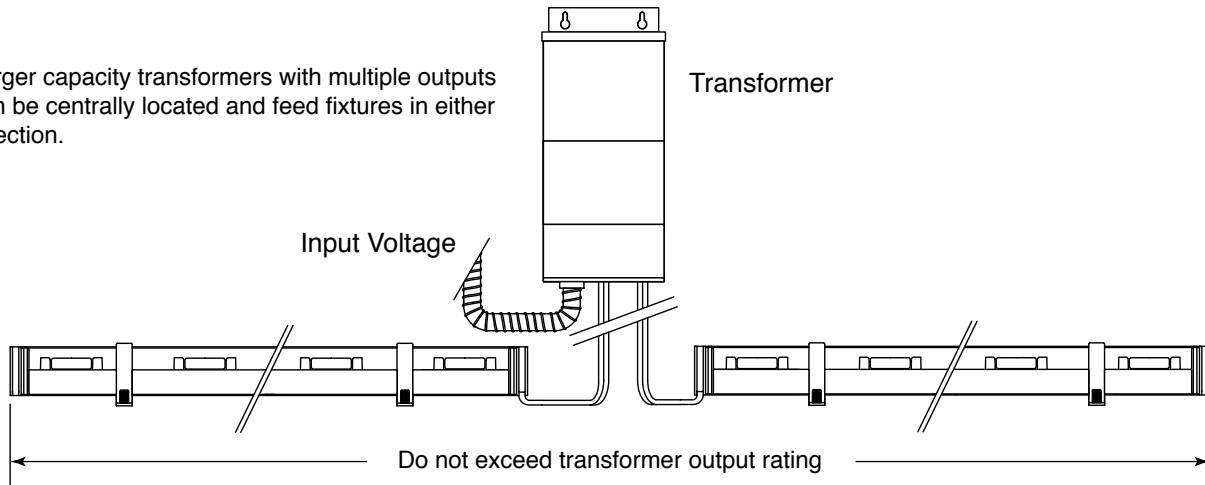
1. Turn off electricity and allow lamps to cool before replacing.

Step 4: Transformer Instructions

Transformer Location

The maximum recommended distance between the fixture and the transformer varies, based upon the load of each fixture and the size of secondary wire feeding the fixture. It is impossible to give a definitive distance without considering all the variables. Electrical engineers and contractors can calculate these distances. Should you need guidance, consult the factory.

Larger capacity transformers with multiple outputs can be centrally located and feed fixtures in either direction.



Secondary Circuit Protection

Transformers are provided with circuit breakers to protect secondary circuits. The maximum size circuit breaker on a transformer is 25 amps, but the circuit wired to the breaker **MUST NOT EXCEED 20 AMPS**.

There are several transformer sizes available, and different size breakers installed in them. Below is a selection of transformers with their respective circuit limitations.

1000 Watt Transformer	25 A	Max. Load 20 Amps 480 Watts @ 24 VAC	960 Watts Max.	300 Watt Transformer	15 A	Max. Load 12.5 Amps 300 Watts @ 24 VAC		
	25 A	Max. Load 20 Amps 480 Watts @ 24 VAC		750 Watt Transformer	25 A	Max. Load 20 Amps 480 Watts @ 24 VAC	750 Watts Max.	
750 Watt Transformer	25 A	Max. Load 20 Amps 480 Watts @ 24 VAC	750 Watts Max.	250 Watt Transformer	15 A	Max. Load 10.4 Amps 250 Watts @ 24 VAC		
	25 A	Max. Load 20 Amps 480 Watts @ 24 VAC		500 Watt Transformer	25 A	Max. Load 20 Amps 480 Watts Max.	100 Watt Transformer	7 A

PRECAUTIONS

Transformers should be installed in an accessible location. Magnetic transformers generate heat and must be installed in locations where there is free-air circulation. Electronic transformers require less space to dissipate heat, but they too should be installed in accessible locations with free-air circulation.

For additional information, please refer to the instruction manual provided with your transformer.