RETRO Installation and Troubleshooting

CANTOUSA
INNOVATIVE LIGHTING PRODUCTS

Installation Instructions for The Retro Series
DO NOT OVER TORQUE THE RETRO WHEN SCREWING THE UNIT INTO THE FIXTURE, A LITE TOUCH IS NEEDED

DO NOT USE WHERE DIRECTLY EXPOSED TO WATER OR WEATHER. FOR USE IN TOTALLY ENCLOSED RECESSED LUMINAIRES.

CAUTION: Risk of Electric Shock- Turn off power before inspection, installation, or removal. Has been evaluated for Portable Luminaries, Surface Mount Wall and Ceiling Luminaires, Theatrical Fresnel's. Suitable for use with Forward Phase/ Reverse Phase Dimmers. Do NOT Open- by opening the fixture without a factory authorized technician will void the warranty. This device is not intended for use with emergency exit fixtures or emergency exit lights. Added weight of the device may cause instability of a free-standing portable luminaire.

Compatible with dimmer switches as well as most commercial/theatrical grade dimmers. For complete details on our warranty and dimmer compatibility please visit www.cantousa.com

Call 1-888-252-5912 to address issues with LED retrofits under warranty.

Unpack LED Retro engine.

Make a visual inspection that nothing has been damaged in shipping. If the unit looks like it has been damaged in shipping, please contact 1-888-252-5912 to address these issues.

(If using Lamp adapter, please screw on lamp adapter to the E26/E27 lamp base at the top of the lamp engine.)

Take the lamp engine and screw it into the existing socket.

Take the ground/safety cable that is dangling from the LED engine. On the end of the cable there will be a crimped o ring connector at the end as well as a provided self tapping sheet metal screw. Take a power drill with a #1 Phillips head screw bit and drill the self tapping screw into a desired part of the fixture.

Once the light engine is installed in the fixture, remove the optics from its container and attach to the white optics holder at the front of the LED assembly. It is recommended that the optics are the last item that is installed as the optics are sensitive and can break, if handled improperly.

When the LED light engine is installed in the fixture, apply power to the lamp to insure a good connection with the existing lamp socket. DO NOT LOOK DIRECTLY INTO THE LED WHEN IT IS POWERED ON. By looking at the LED while powered on could cause temporary blindness/ permanent eye damage.

Check to make sure that the fan is indeed spinning in order to prevent the LED from overheating.

DO NOT TOUCH THE YELLOW LED

By touching the LED, you can cause damage to the LED and therefore void the warranty of the product.

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Installation Instructions for The Retro (PAR 56/64 Lamp Replacement with Bare Ends wiring)

DO NOT USE WHERE DIRECTLY EXPOSED TO WATER OR WEATHER. FOR USE IN TOTALLY ENCLOSED RECESSED LUMINAIRES. CAUTION: Risk of Electric Shock- Turn off power before inspection, installation, or removal. Has been evaluated for Portable Luminaries, Surface Mount Wall and Ceiling Luminaires, Theatrical Fresnels. Suitable for use with Forward Phase/ Reverse Phase Dimmers. Do NOT Open- by opening the fixture without a factory authorized technician will void the warranty. This device is not intended for use with emergency exit fixtures or emergency exit lights. Added weight of the device may cause instability of a free-standing portable luminaire.

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Call 1-888-252-5912 to address issues with LED retrofits under warranty.

Unpack LED Retro engine. Make a visual inspection that nothing has been damaged in shipping. If the unit looks like it has been damaged in shipping, please contact 1-888-252-5912 to address these issues.

Please contact factory for details on installation as each fixture we have found is different and may require a custom method of adaption every time.

When LED Engine is installed into the fixture, take the bare ends wires at the top of the LED Engine and connect with approved connectors.

Remove the existing porcelain lamp socket by using a pair of wire cutters. Please insure that power is off to the fixture housing before performing this step.

Once the porcelain is removed, using a pair of wire strippers, strip back the existing wires no more than ¼" of exposed wire.

Take the exposed wire from the existing wire tails in the fixture and connect the Hot/Load wire (Black in USA) to the black wire coming out of The RETRO. Do the same for the Neutral wire. If The Retro PAR56/64 Adapter plate is attaching to a metal housing, there will be no need to connect the provided ground wire. If there is not metal housing, take the ground/safety cable that is dangling from the LED engine. On the end of the cable there will be a crimped o ring connector at the end as well as a provided self tapping sheet metal screw. Take a power drill with a #1 Phillips head screw bit and drill the self tapping screw into a desired part of the fixture. Once the light engine is installed in the fixture, remove the optics from its container and attach to the white optics holder at the front of the LED assembly. It is recommended that the optics are the last item that is installed as the optics are sensitive and can break, if handled improperly. When the LED light engine is installed in the fixture, apply power to the lamp to insure a good connection with the existing lamp socket. DO NOT LOOK DIRECTLY INTO THE LED WHEN IT IS POWERED ON. By looking at the LED while powered on could cause temporary blindness/ permanent eye damage. Check to make sure that the fan is indeed spinning in order to prevent the LED from overheating.

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Trouble shooting guide for The RETRO Series

Test dimming compatibility. Not all dimmers are created the same. For assistance with dimmers, please call 1-888-252-5912.

If your fixtures are not dimming smoothly to expectations, please try some of the following troubleshooting tips if your existing dimming system is equipped with such features.

- Adjust Zero Crossing/Rise Time on your dimmer system. Some high grade DMX controllable dimming systems will allow you through either software, or dimming module to adjust the Zero Crossing/Rise Time of the dimmer. This was a feature in dimming systems to minimize the audible vibrations of a tungsten filament. This feature can now be used in situations where there may be dirty power in the building in order to help reduce any odd power behaviors in the LED engine.
- Enable 16 bit dimming on your DMX Dimmers. What we have found in some instances is that the dimming software in each processor can be different depending on the version of code that is currently installed. As Tungsten is a very forgiving Light source, LED's are prone to be very sensitive to the power being given to the device. Remember that the power going to the fixture is supplying power as well as signal to the unit.
- If you are using an ETC (Electronic Theatre Controls) dimming cabinet with a Paradigm or Sensor 3 Processor, you can enable the "Smoothing" dimmer curve. By using this curve it allows the unit to have a slow reactionary time while fading so not to cause any visual stepping of the lead dimming over 8bit DMX which only uses 256 steps to dim to 0%
- Check to make sure that there is nothing else plugged into the power source for the dimmer rack, IE Power conditioners, Computers, audio devices or motors as this may cause harmonic noise on the neutral and can cause the LED driver to not perform as intended. Again, if you are able to adjust the Zero Crossing on the dimmer, as stated above, then you can raise that and see if the problem still persists.
- Add a LED Dummy load to the system. SCR dimmers generally require a load of at least 100 steps traditionally used by DMX.
- In some old dimming systems, the dimmer is using a resolution of only 128 steps vs the 256 watts in order to have the DIAC latch open. Most of the time this problem is solved by having at least a 50' cable distance between the dimmer rack and the first fixture, in order to put enough resistance on the line in order to dim the unit properly. While testing the unit in the field with the end user, please take note of the end results in terms of aesthetics. In some cases, it may prove more pleasing to use a lower profile optic in place of the taller optics.

Make sure that the fixture is not sealed. The RETRO is constantly recirculating fresh air throughout the can in order to keep the LED cool, this ensures full term life of the LED Engine.

If you are in need of multiple demo kits in order to figure out optics spacing and output, please contact your local sales representative or contact the factory at 1-888-252-5912.

Check the depth of the lighting fixture you are retrofitting to. Depending on the type of lamp socket the fixture has, an adapter may be need to allow the retro to be installed,

Check the existing wiring. In some bare ends installations, there have been reported cases of old wiring being made with asbestos or the wire has had the insulation melted into the wire strands. These issues make it very difficult to get a good connection while attaching the wago locks or wire nuts.

Make sure the existing lamp socket is not damaged or corroded from time and usage. In certain installations there have been cases of the lamp sockets having to be replaced. (More so in 500 Watt E11 fixtures) These type of fixtures are famous for burning up the socket and it may need to be replaced before putting another light source into it. It is always a good rule of thumb to check the inside of the cans for any old and frayed wiring that may interfere with the installation into the fixture.

If the client is having trouble with the ^{3}POP^{2} on here are a few methods to reduce its noticeability.

- Make the fade up a 2 part macro with a wait time, if they are ETC Techs they should know how to do this. Part one of the fade time will be 0% to 20% over about 20 seconds. Since the units are so bright on the bottom end in comparison to a tungsten it does get bright very quickly. This helps make it slower. Then the 2nd part of the macro after the wait function, will be fading from 20% to 100% over 5 seconds. I have found this works the best.
- Play around with the Minimum voltage settings on the dimming processor for those circuits. Generally on an ETC panel it is around 6V Minimum, try raising it up about 20V as that might help as well since it would be able to charge the circuit faster while fading up.
- If they are fading up over 2 seconds, or even 5 Seconds it will appear very sudden.
- One last thing to check would be the dimming curve. We have actually seen the unit be dimmer on the bottom end while using a linear dimming curve vs MOD Square. Should be able to fade up faster once they adjust the minimum voltage. It needs to be somewhere between 14-20v. It will not affect the black out look. Adjusting the minimum voltage only addresses the 1% control voltage... 0% is still 0% light output.