Electronic Ballast (110V-240VAC) for UV-C Germicidal Lamps – *Case Study*



Overview: We had a company approach us who had been having high failure rates with a competitor's 110V – 240VAC UV light ballast. They asked that ISL improve the incumbent ballast design to correct its faults and then manufacture the improved ballast in high volumes. This ballast is used to power a specific UV-C bulb that is used in the customers' commercial HVAC Air Purification system. We had manufactured similar ballasts in the past, and this was a new opportunity for ISL to create another value-added solution.

Challenge: We had to make some adjustments to the incumbent ballast design in order to reach the customers desired performance. The incumbent ballast had issues with the filament and the required line voltage, resulting in over a 30% defect rate. In addition to the performance requirements, we needed to make sure that the ISL manufactured ballast would work with the customers' specified UV-C bulb. There were also UL testing requirements and the need for the ballast to be recognized under UL935.

Solution: ISL improved the incumbent design, manufactures and supplies this ballast to the customer in high volumes. To resolve the line voltage issues we used a regulated power supply for this ballast. We were able to minimize sputtering by using a soft start feature. The improvements that ISL made resulted in a defect rate of less than 1%. One of the value-added features that ISL incorporated into this ballast was a secondary monitoring LED light and we increased the cycle time to10K hours.

ISL had the ballast tested and approved to meet the UL935 requirements. ISL maintains the UL file for this product.